THE OIL WEEKLY

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THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS

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Staff correspondents at all important points.

Member Audit Bureau of Circulation
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Oil Man's Calendar

SEPT. 27 OCT. 1	American Gas Association, Cleveland, Ohio.
OCT. 4–9	Chicago Exposition of Power & Mechanical Engineering, New International Amphitheatre, Chicago.
5	East Texas Chapter Meeting, American Petroleum Institute, Kilgore.
7–8	American Institute of Mining and Metallurgical Engineers, Petroleum Division, Fall Meeting, Oklahoma City, Oklahoma.
11–15	National Safety Congress & Exposition, Kansas City, Missouri.
11–16	Oil-World Exposition, Houston, Texas.
13–14	Indiana Independent Petroleum Association, Indianapolis, Ind.
13–15	Institution of Mechanical Engineers, London, England, discussion on Lubricants and Lubrication.
14–15	Interstate Oil Compact Commission, Rice Hotel, Houston, Texas.
14–16	American Association of Petroleum Geologists, Mid-Year Meeting, Pittsburgh, Pennsylvania.
14–16	Independent Petroleum Association of America, Houston, Texas.
18–22	American Welding Society, Atlantic City, New Jersey.
18–23	American Institute of Mining & Metal Engineers, Atlantic City.
27–28	Indiana Independent Petroleum Association, Indianapolis, Ind.
29–30	Mid-Continent Oil and Gas Association, Texas Division, Baker Hotel, Dallas, Texas.
NOV. 8–12	American Petroleum Institute, (Annual), Chicago, Illinois.
DEC. 6–10	American Society of Mechanical Engineers, New York.
1938 MAR. 16–18	Annual Meeting, American Association of Petroleum Geologists, Roosevelt Hotel, New Orleans, La.

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Published every Monday. Single Copies 15 cents (Special Issues 50c). Subscription price: domestic and foreign, $2.00 a year; 2 years $3.00. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies. Advertising rates on application.

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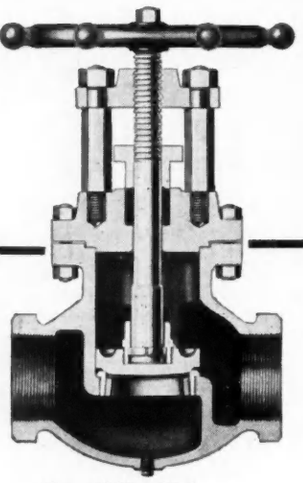

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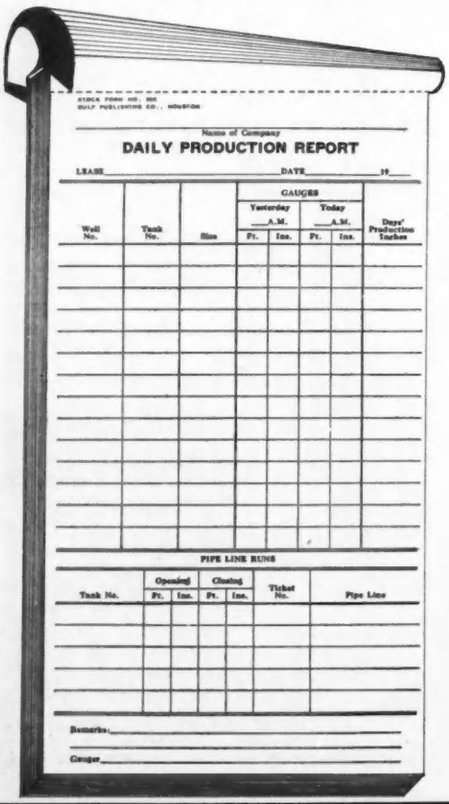

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LOOKING AHEAD

WITH THE EDITOR

Corrosion Increasing in Kansas Fields . . .

Metallurgical Progress Big Industry Aid . . .

Wet Gas Measurement Problems.

CORROSION, already an important factor in operating costs in Western Kansas, promises to fill a more prominent role in the narrow margin between profit and loss there along with approaching water encroachment in additional fields. Means of combatting this destroyer of equipment already are profitably, though not completely, effective in some instances. Continued study of the problem is developing new means of fighting this enemy and prolonging the life of metallic material in areas where brine and hydrogen sulphide must be coped with. In an early issue some recent developments in the anti-corrosion crusade will be discussed.

METALLURGICAL progress is the greatest factor in the vast improvement that has taken place in the manufacturing of oil field equipment, without which advancement the industry could not operate as efficiently, or under some of the conditions encountered in several regions, as it now does. A discussion of the metallurgical progress in drilling, production and pipe line equipment is highlighted in an article prepared by a consulting metallurgists, and which will be published in an early issue also.

THE problems of wet gas measurement afford a great many problems that vary greatly in different fields or localities. However, these are troubles common to all areas, and these account for most of the errors encountered in wet gas measurement. The common difficulties are to be the topic of an interesting article to appear in an early issue. In the article, written by a man long associated with such problems, H. F. Chapman of Phillips Petroleum Company, seven common troubles are listed and each is discussed in a concise but thorough manner. Those experiencing troubles in measuring wet gas will be interested in reading this article, and will find it of value.

The changing panorama

this week

ALTHOUGH caution and pessimism currently are conspicuous throughout the land, it is difficult to generate much anxiety over the oil industry's outlook.

Outlook is Good

It was virtually assured last week that favorable conditions will previal until November 1, since close balancing of crude production with market demand is in prospect throughout October.

While the Bureau of Mines was estimating that 3,568,100 barrels, an increase of 58,000 barrels over its forecast for September, would be needed to meet daily consumption in October, the Texas Railroad Commission ordered the states allowable cut back 35,890 barrels per day. This will place Texas' yield at 1,405,844 barrels on the first of the month, which is under the daily recommendation of the bureau. This is the first time in months that the state has been reduced below the bureau's suggested quota.

The Bureau of Mines sees the need for an increase in its estimate of needs over September, which was exceeded by actual production, because of the unusually large export demand. The wars in Europe and the Far East are creating a big consumption of petroleum products, offsetting the seasonal decline caused by less automobile travel.

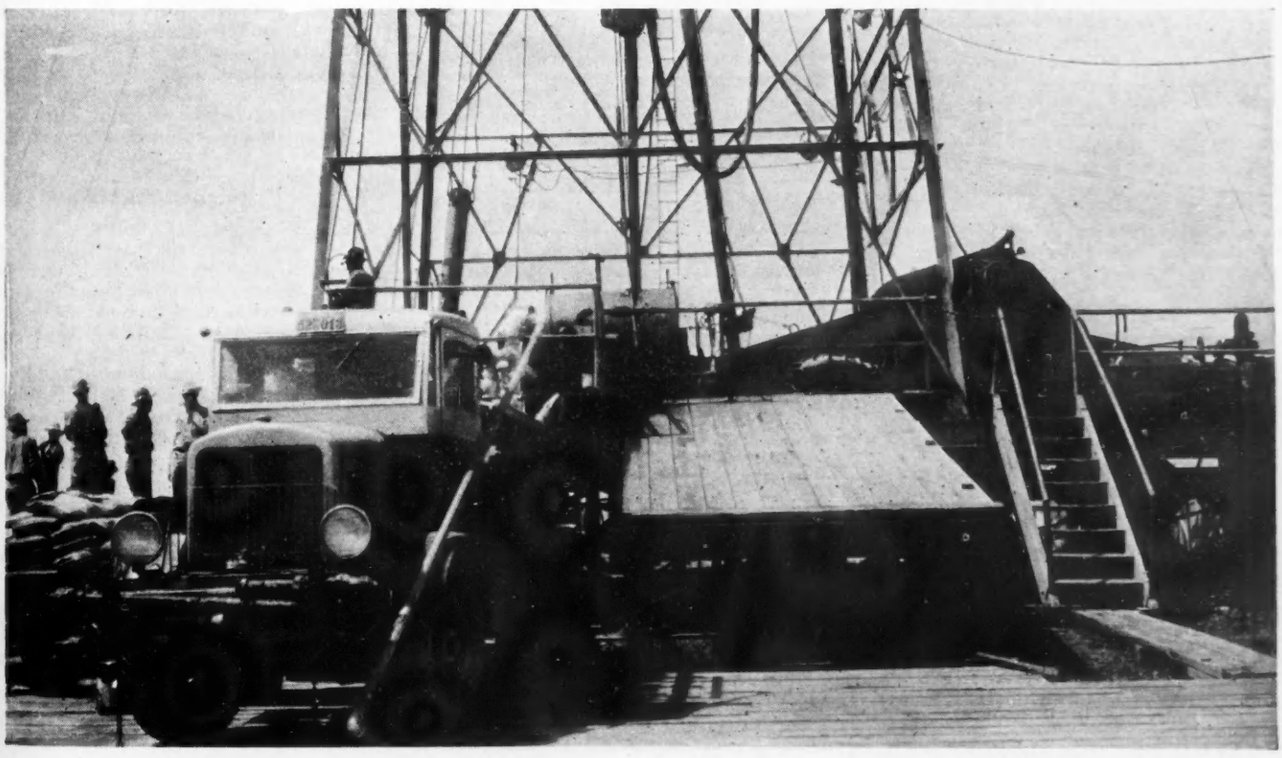
Louisiana Allowables Upped

Although the Rodessa field will be prorated to the same figure in October as it was in September, indications are that Louisiana's total allowable will be higher than last month. The latter is to be expected when final orders for the state are released, because of a 2225-barrel increase made in the Lisbon field orders.

Little Protest to Texas Cut

Of importance last week was the lack of any serious protest to the Texas cut, although an announcement was made prior to the statewide hearing that

A NEW OIL FIELD for Acadia Parish, Louisiana Gulf Coast district, was located September 22 when Humble Oil & Refining Company's Federal Land Bank 1, on the North Crowley prospect, came in flowing 679 barrels of 36 gravity oil from the Oligocene formation after perforating casing with 15 shots at 8082-8102 feet. The successful completion of this test may be accredited to improved logging and completing methods. Over 30 tests were made before pipe line oil was located. During the past month it has been constantly perforating, testing and cementing. This scene was taken when the final squeeze cement job was being performed. In this instance cement was squeezed through perforations at 8985 feet up to the level of the present producing horizon.



a drastic reduction probably would be made. Apparently, producers recognized the value of curtailing their output at this time.

The reduction ordered in Texas represented 23 percent of the proratable oil for the flush fields of the state. Some adjustment in these allowables may be expected before they become effective, but Texas has set an example that is expected to be followed by the majority of other oil-producing states.

Madison Trial Drawing Crowd

With the industry's greatest law suit in many years to commence in Madison, Wisconsin, on October 4, oil men were flocking to the city last week. In an effort to find living and working quarters during the trial, which is expected to last several months, all the desirable homes and suites in the city have been leased.

Twenty-four companies and numerous promient oil men are to answer to charges of maintaining gasoline prices by operating a cooperative buying pool.

Another legal development of the week was the filing of a $42,000,000 damage suit against a group of gas companies, which alleges they fraudulently diluted natural gas sold to domestic consumers over a period of nine years. This suit was filed at Columbus, Ohio, by the city attorney, and is generally looked upon as a "political move," as such action ordinarily would come in federal court.

★ ★ ★ ★ ★

New West Texas Fields

New fields and promising wildcat areas north of Midland in West Texas continue to claim the lion's share of attention in the upper part of the Permian Basin. Swabbing promises a four-mile extension to Duggan field in Cochran County. Eight miles northwest beyond this, The Texas Company logged another show of oil on the Slaughter property. Southeast of Duggan, but in Hockley County, Stanolind has completed a 2½-mile extension to the Slaughter field. Then, too, it looks like Phillips Petroleum Company has extended the Wasson field another 1½ miles northwest, while a 3½ mile west extension is being afforded by a small producer.

Important Kansas Strikes

The status of Kansas in reserve ranking seems to grow continually. What promises to be the greatest gas field in Sedgwick County was opened during the week, and a new oil field looms as a distinct possibility four miles east of Hays in Ellis County. Within a fortnight Stafford County is expected to contribute a new field. Numerous extensions were reported the past seven days in Barton, Russell and Ellis counties.

An important test southwest of Chandler in Lincoln County, Oklahoma, failed this week, but this dampening development was more than offset by extension of Wellston, the Hunton lime zone in Fitts, the Billings field and a new Coal County field.

In California, where the search for new reserves borders on the frantic, considerable attention is being paid to the area around Oxnard, where only one wildcat is producing. Northwest Long Beach thought to be a link between Long Beach and Wilmington, now appears a separate field.

New Coast Discoveries

South Louisiana, potentially a great producing territory, came through with three new fields this week. It is expected to yield another new one next week as result of showings in an Acadia Parish wildcat. The Texas sector of the Gulf Coast offered a new field in Newton County, Cockfield production. Also, Brazoria County contributed the world's second deepest producing well—sands at 10,635-50 feet in a well at Old Ocean.

In the coastal belt of Southwest Texas, Lamar prospect in Aransas County, proved to be the area's deepest gas field. Chittim anticline, long regarded as important geologically, looks as though it will be removed from the list of prospects by a Maverick County wildcat showing oil in Edwards limestone. Down along the Mirando trend of Southwest Texas Jackson sand is ranging higher as a source of future crude. In addition to important extensions to fields producing from this horizon during the week, two wildcats are showing as potential discoverers of new Jackson fields.

Illinois Coal Basin area will have to be watched closely. The calibre of extensions this week and recently there command the attention of the industry.

Market briefs

Outlook—Better crude control is steadying influence.

Crude Market—No further reductions of prices made.

Refined Oil Markets—Prices holding at previous levels.

CURRENT OPERATIONS

Week Ended	Daily Crude Production	Daily Crude Runs to Stills
September 18..	3,671,200	3,400,000
Previous week .	3,642,400	*3,455,000
Year ago.....	3,037,000	3,010,000

CRUDE STOCKS

DATE	Crude Oil (Barrels)
September 11.....	309,054,000
Week ago.....	310,417,000
Year ago.....	298,448,000

REFINED OIL STOCKS

DATE	Gasoline (Barrels)	Gas & Fuel Oil (Barrels)
September 18..	66,057,000	116,178,000
Week ago.....	66,456,000	114,666,000
Year ago.....	57,286,000	113,118,000

DRILLING

PERIOD	Wells Completed
Past week.....	595
Previous week.....	545
Year ago.....	424
Year Total:	
This year.....	21,350
Last year.....	17,769

*All time peak.

Water Influence on East Texas

One of the highlights of the Texas statewide proration hearing last week was the suggestion that the rate of water withdrawal has just as important an influence on the bottom-hole pressure of the East Texas field as does the volume of oil production. This belief, however, was not as important as the recommendation that the Railroad Commission limit the quantity of water produced the same as it does the oil yield. While it may be impractical to put the idea in force because of the difficulty of starting such a practice in areas now under heavy water intrusion, and these are increasing, THE OIL WEEKLY hastens to give you the dope on the proposal. A written statement was presented to the commission, and this interesting document is presented on page 17.

Better Belt Life

The service life of belting, which plays a very strenuous and important role in the transmission of power in the oil industry, depends upon the care exercised in the selection, installation and operation of the product. Abusive practices have materially shortened the life of many belt installations. An analysis of several hundred belt failures places the bulk of the blame on the operator. How to avoid these conditions is the subject of an article starting on page 19.

Repressuring Advancements

While the advancements made in our knowledge of repressuring, which is further summarized in the second part of a two-article series on the subject (page 32), have been great, future advancements are apt to overshadow the past developments. Rapid development of our petroleum deposits warrants the careful consideration of this work for research study.

Proration Matters

Due to heavy export and fuel oil demand, bureau estimates 58,800 barrels more will be needed in October . . . However, Texas cuts 93,540 barrels to go below bureau quota . . . No change made in East Texas proration.

THERE will be a close balancing of supply and demand during October. Preliminary production allowable actions last week indicated this condition.

Foreseeing enlarged export shipments, due to foreign wars, and an unusually low gasoline yield because of greater fuel-oil demand, the Bureau of Mines in its monthly forecast estimated 58,000 barrels more than needed in September would be required in October.

However, others apparently see things differently. For while the bureau recommended an increase of 17,000 barrels in Texas, that state established its allowable 24,456 barrels below its quota. This is the first time in months that Texas has been below the bureau.

Consequently, it appears that October will be characteristized by strict production control.

Although conditions in the East Texas field, where bottom-hole pressures are declining rapidly again, was the keynote of the Texas statewide proration hearing, the Railroad Commission failed to change proration orders in the field. It had been expected that some action would be taken, since some operators were demanding the checking of the bottom-hole pressure downward trend. On the other hand, there were those who felt the commission could not cut below the present per well allowable because of the Texas marginal well statute (see column 1, page 12).

In view of the decision of the commission to leave East Texas alone, the month of October should see a further decline in bottom-hole pressures and also a gain in salt water production. This situation probably will result in an increased demand for pumping equipment, as a good many wells are near the artificial lifting stage.

Bureau sees increase

An abnormal export situation and unusually low gasoline yields due to the growth in fuel-oil demand will combine next month to offset the lateness of the season and will necessitate another increase in crude petroleum production, it was forecast by the Bureau of Mines September 22.

These two factors, the bureau announced in its monthly estimate, will require a daily average production during the coming month of 3,568,100 barrels of crude, an increase of 58,800 barrels over the September forecast, 477,900 barrels, or 15 percent, higher than the actual daily production in October, 1936, and 12 percent higher than the actual demand for domestic crude in that month.

Crude oil production during the five weeks from July 31 to September 4 averaged about 3,714,000 barrels daily, the bureau pointed out, and during that period crude oil stocks increased 2,167,000 barrels net, of which 1,630,000 barrels was in domestic grades, indicating a daily demand for domestic crude during the period of 3,667,000 barrels.

"October is one of the most difficult months in the year for forecasting motor fuel demand," it was commented. "For the past three years demand during this month has been unusually high, indicating that there probably has been a change in seasonal demand because of increased automobile touring in the fall. In addition, weather conditions affect the October demand more than they do any other month. A pleasant Indian summer will bring many cars onto the highways, whereas early cold and snow put October into the winter months and stop this pleasure traffic. Considering these varying and offsetting factors, the bureau has estimated the October demand as 48,550,000 barrels, or 10 percent higher than the actual for October, 1936.

Exports of motor fuel for October has been raised in anticipation of a continuing heavy demand, both normal and military, the figure of 3,250,000 barrels set being 250,000 barrels higher than the September estimate.

Stocks of finished and unfinished gasoline amounted to 70,120,000 barrels on July 31, the bureau reported, and according to the American Petroleum Institute, gasoline stocks were reduced about 3,600,000 barrels during August, which would place them at approximately 66,500,000 barrels as of August 31. If the estimated September reduction of 2,800,000 barrels is accomplished, it was pointed out, stocks of gasoline will amount to about 63,700,000 barrels as of September 30, and the bureau estimates a further reduction of one million barrels for October, which would place stocks at the end of that month at about five million barrels more than on the same date last year.

Benzol and direct sales and losses of natural gasoline are estimated for the coming month at 900,000 barrels, making the estimated production of gasoline 49,900,000 barrels, of 1,610,000 barrels daily, which the bureau distributed among the various districts as follows: East Coast, 7,340,000; Appalachian, 1,820,000; Indiana-Illinois, 8,730,000; Oklahoma, 3,300,000; Kansas-Missouri, 2,890,000; Texas Inland, 4,020,000; Texas Gulf, 11,020,000; Louisiana Gulf, 1,630,000; North Louisiana-Arkansas, 960,000; Rocky Mountain, 1,170,000; California, 7,020,000.

Natural gasoline consumption at refineries in October is placed by the bureau at 8.6 percent of the total gasoline required, or 4,290,000 barrels. The yield of straight-run and cracked gasoline is estimated at 43.936 percent, which when applied to the estimated straight-run and cracked gasoline production of 45,610,000 barrels, gives refinery crude oil requirements as 103,810,000 barrels, or 3,349,000 barrels daily.

Foreign crude run to stills is estimated at 2,700,000 barrels, 200,000 barrels under the September estimate, but crude oil exports have been increased to 6,400,000 barrels, compared with the 5,600,000 barrels estimated for September. The estimate for crude oil burned as fuel and losses has been increased in accordance with the usual seasonal change to 3,100,000 barrels, 100,000 barrels above September.

Allocation of the required October production, as compared with the September forecast, among the various states was recommended by the bureau as follows: Texas, 1,430,300 barrels against 1,413,600 barrels; California, 660,000 against 638,200; Oklahoma, 629,200 against 633,300; Louisiana, 254,600 against 247,900; Kansas, 199,900 against 200,900; New Mexico, 106,400 against 101,400; Wyoming, 57,300 against 55,900; Pennsylvania, 55,500 against 53,600; Michigan, 43,500 against 40,400; Arkansas, 36,000 against 29,900; Montana, 17,600 against 18,200; Illinois, 17,300 against 14,600; Kentucky, 16,700 against 17,000; New York, 15,800, unchanged; West Virginia, 10,500 against 10,300; Ohio, 10,400 against 10,500; Colorado, 4,500 against 5,000; Indiana, 2,600 against 2,500 barrels.

Texas allowable reduced

The Texas Railroad Commission last week issued its October proration order fixing allowable of 1,405,844 barrels daily. This was a reduction of 93,540 barrels in the Texas allowable, which was in effect on September 18 and represented a reduction of 23 percent of the proratable oil in the flush fields of the state.

There was no change, however, in the allowable for the East Texas field, which will be continued at 3.23 percent of the hourly potential.

Below Bureau Estimate

The Bureau of Mines estimated that the consumer demand for Texas oil during the month of October would be 1,430,300 barrels daily, and the new allowable is 24,456 barrels below the bureau estimate. This is the first time in several months that commission allowance has been less than the bureau estimate although it has been below the nominations filed with the commission by purchasers of Texas crude.

The largest cut was ordered in the Gulf Coast district, where a total of 24,420 barrels was cut for September 18 allowances. West Texas lost 20,740 barrels and 19,008 barrels was taken off district 4 in southwest Texas. The three southwest Texas districts combined lost a total of 28,084 barrels.

Table 1 sets out the district allowable on September 1, September 18 and October 1. It should be noted that the only

increase in any district is that for the East Texas field, which is caused by the addition of new wells to the proration schedule.

New field allowables, with the amount of change, included:

Southwest Texas

Buchanan 683, up 265; Darst Creek 6789, down 391; Ellison-Young 806, up 281; Luling-Branyon 9565, up 265; Salt Flat 4676, down 124; New Burnell 567, up 367; Dirks 3081, down 318; Greta 10,242, down 1659; Heyser 4259, up 302; McFadden 101, up 100; Placedo 8442, down 154; Tom O'Conner 12,988, down 1492; Ray 758, down 156; Refugio (Fox) 967, down 169; Refugio (new) 3603, down 369; Refugio (old) 1086, down 107; Alta Mesa 400, down 65; Aransas 3438, up 593; Benevides 4060, up 1190; Clara Driscoll 977, down 196; Corpus Christi 7400, down 123; Driscoll (Conoco) 1123, down 70; Escobas 2000, up 48; Flour Bluff 5265, down 70; North Government Wells 10,416, down 633; South Government Wells 5403, down 306; Hoffman 2258, up 80; Killam 1090, up 122; Loma Novia 18,192, down 1392; Lopez 8944, down 710; Luby 249, up 149; Lundell 260, up 96; Mercedes 0, down 81; Miday 420, up 174; O'Hearn 5902, down 298; Oilton 768, up 608; Piedre Lumbre 1000, up 154; Plymouth 11,896, up 252; Premont-Prospect 1029, down 95; Samfordyce 5355, down 132; Seven Sisters 10,301, down 760; Saxet 18,119, up 311; Saxet, new (Frio) 18,307, up 1277; Taft 3043, down 284.

East Central

Cayuga 8610, up 724; Long Lake 1597, down 16; Rodessa 28,053, down 4564; Sulphur Bluff 6100 (unchanged); Talco 30,324, up 2061; Van, 24,496, down 4238.

Coast Area

Amelia 4167, up 131; Anahuac 10,474, down 898; Bay City 1679, down 255; Boling 1642, down 302; Barbers Hill 10,715, down 2440; Conroe 38,840, down 4439; Dickinson 2898, down 45; Esperson Dome 1347, down 129; Fannett 834, down 113; Gillock 1640, down 159; Goose Creek 2144, down 155; Hamman 424, up 168; Hankamer 1011, down 144; Hasting 17,911, down 200; High Island 2775, down 357; Old Hull 2655, down 204; New Hull 5493, up 1882; Lockridge 1159, up 147; Louise 1302, down 153; Livingston 2493, down 96; Manville (Miocene) 3924, down 540; Manville (Oligocene) 3670, down 503; Mykawa, new, 1117, down 197; Nome 1691, down 102; Pickett Ridge 1521, down 199; Port Neches 920, down 160; Pierce Junction 2998, down 128; Racoon Bend 1290, down 803; Raccoon Bend (Cockfield) 2909, down 234; Silsbee 1444, up 152; South Houston 4175, down 488; Sugar Land 2636, down 477; Spindletop 2474, down 149; Thompson 11,209, down 1741; Tomball 8124, down 192; Turtle Bay 820, up 105; West Columbia 1559, down 278; West Columbia (new) 480, up 320; Webster 400, up 278; Withers 1333, down 101.

West Texas

North Cowden 7207, down 593; Crane Cowden 2246, down 133; Estes 8818, down 1179; Fuhrman 969, down 118; Goldsmith 11,944, up 8; Gulf-McElroy 3743, down 133; Harper 755, up 344; Henderson 3488, down 287; Hendricks 12,259, unchanged; Howard-Glasscock 14,136, down 916; Iraan-East Howard 7199, up 469; Jordan 454, up 122; Kermit 18,982, down 840; Keystone 2851, down 323; Masterson 734, down 166; Means 2085, down 163; Penwell 4647, down 443; Scarborough 1768, down 110; Tobard 3123, down 117; Taylor-Link 1131, down 141; Waddell 1880, down 330; North Ward 6831, down 528; South Ward 18,031, down 1762; Wasson 774, up 294; Yates 25,819, down 2587.

West Central

Fisher 3550, up 79; Jack (south half) 9000, down 1754; Jones 7700, up 92; Shackelford 8200, down 200; Upton (McCamey) 12,975, up 226; Young (south half) 6450, up 150; Reagan (Big Lake) 7750, unchanged.

Texas Marginal Well Statute

Here is what The Texas law on marginal wells says:

ARTICLE 6049b. SECTION 1. Marginal Wells Defined: Curtailing Production.—The term "marginal wells" as used herein means **a pumping oil well** capable, under normal unrestricted operating conditions, of producing such daily quantities of oil as herein set out **as would be damaged, or result in a loss of the production ultimately recoverable or cause the premature abandonment of same, if its daily production were artificially curtailed.** The following described wells shall be deemed "marginal wells" in this State:

(A) Any pumping oil well within this state having a daily capacity for production of ten (10) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a depth of two thousand (2,000) feet or less.

(B) Any pumping oil well within this state having a daily capacity for production of twenty (20) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a horizon deeper than two thousand (2,000) feet and less in depth than four thousand (4,000) feet.

(C) Any pumping oil well within this state having a daily capacity for production of twenty-five (25) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a horizon deeper than four thousand (4,000) feet and less in depth than six thousand (6,000) feet.

(D) Any pumping oil well within this state having a daily capacity for production of thirty (30) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a horizon deeper than six thousand (6,000) feet and less in depth than eight thousand (8,000) feet.

(E) Any pumping oil well within this state having a daily capacity for production of thirty-five (35) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a horizon deeper than eight thousand (8,000) feet. (Acts 1931, 42nd Leg., p. 92, ch. 58, as amended Acts 1933, 43rd Leg., p. 215, ch. 97.)

Texas hearing

Control of declining pressures in the East Texas field received most attention from operators at the Texas statewide proration hearing held in Austin last Monday.

Commission engineers reported that the allowable on September 18 totaled 1,499,384 barrels, or 57,650 barrels more than the allowable fixed by orders effective September 1. This increase was caused by the completion of 614 new wells which did not appear on the September 1 proration schedule.

Purchasers of Texas crude filed with the commission nominations to buy 1,648,356 barrels of crude during the month of October. This was 9420 barrels less than was nominated for September. Nominations for succeeding months indicating a greater demand through February are shown by Table 11.

Reduction Expected

Despite the fact that Commissioner Ernest O. Thompson announced on the Saturday before the hearing that the state allowable must be cut about 100,000 barrels, no one at the hearing protested seriously against a reduction. Most operators who testified asked for small increases, requested that allowables for their wells be unchanged, or asked that the commission, in the event a cut was necessary, apply it proportionately throughout the state.

East Texas Pressure Drops

V. E. Cottingham, director of production for the commission, reported that on September 12 the average pres-

TABLE 1

Texas Allowable by Districts

DISTRICT	September 1 Allowable	September 18 Allowable	October 1 Allowable	Decrease
1 Southwest Texas	29,043	30,934	29,161	1,773
2 Southwest Texas	56,659	59,903	52,600	7,303
3 Gulf Coast	202,749	214,237	189,817	24,420
4 Southwest Texas	159,823	177,841	158,833	19,008
5 East Central Texas	38,558	40,040	35,802	4,238
6 East Central Texas	72,376	75,734	70,638	5,096
East Texas	475,308	478,210	480,154	1,944*
7 West Central	48,821	50,519	47,252	3,267
7-C West Central	22,448	23,220	22,607	613
8 West Texas	193,460	204,245	183,505	20,740
9 North Texas	64,250	65,056	61,935	3,121
10 Panhandle	78,230	79,445	73,540	5,905
Total	1,441,734	1,499,384	1,405,844	93,540

* Increase.

sure for the East Texas field had declined to 1131.33 pounds, a decline of 12.89 pounds in the past month. While this was less than the drop of 13.17 pounds for the preceding month, Cottingham said that the allowable for the field should be reduced. He pointed out that during the month ending September 12 the daily allowable averaged 475,191 barrels, and that pressure declined at the rate of .875 pounds per million barrels of allowable oil. (See Table 2.)

Cottingham was cross-examined by Representative Clarence E. Farmer of Fort Worth. Farmer announced that he was at the hearing seeking information to put before the Legislature, which convenes on September 27. He asserted his purpose was to insure collection of taxes on crude oil. Farmer is usually on the liberal side of questions, especially those involving higher old age pensions and increasing of taxes on industry.

Farmer was also interested in maintaining the highest possible allowable in order to increase the tax income to the state.

He questioned the method of testing pressures in East Texas by the use of only 91 key wells and drew from Cottingham the admission that small operators who sold out in East Texas usually sold to concerns able to pay for the properties.

Joe Zeppa, independent producer from East Texas, developed through Cottingham that withdrawals per acre in the field now average some 3 barrels per acre and that per acre withdrawals in other fields are larger.

During the course of Cottingham's testimony, he emphasized the fact that the withdrawal of water in the field is constantly increasing. He estimated that 70,000 barrels a day is now being taken from Woodbine sands, and said that each barrel of water occupied the same reservoir as eight-tenths of one barrel of oil. Thus it became apparent that the commission must either eliminate water withdrawals or cut the oil allowable materially if the pressure decline is to be arrested.

Tender Spat

A statement was introduced by Bryan Payne of Tyler listing operators who no longer obtain federal tenders but operate on state tenders alone. He pointed out that there were 158 leases with 319 producing wells which have obtained no federal tenders since 1936. Payne stated that oil sold on state tenders frequently brought a lower price than that sold on federal tenders. He asked that the commission check each well on the leases listed.

C. V. Terrell, chairman of the commission, asserted that the commission had already begun the investigation of these properties.

Questioned by Senator Will Pace of Tyler, Payne inferred that he thought the federal board was making a more thorough investigation than the commission. This brought prompt response from Commissioner Ernest Thompson.

"What you really mean, Mr. Payne," said Thompson, "is that the federal government knows more about running this oil business than we do? That has been your attitude all the time, hasn't it?"

"No, sir, but it looks like the federal government can check the leases better than you can, Colonel," was Payne's reply.

"You have been doing nothing to help the commission, but you have been getting up here and just making a show," said Thompson.

To that remark, Payne retorted, "No, sir, you have been putting on the show and I have been listening to it."

Thompson's statement, "You came up here before the commission a while back . . ." was interrupted when Payne interposed, "I talked to you about six or seven months ago."

"Yes," said Thompson, "and if you will cooperate just a little bit with the commission instead of running around trying to impute the motives of the commission you will get things done a great deal faster. I think you are a menace to the industry and to the state. Men like you are what makes trouble, resulting in turning everything over to the federal government to run, and it has gone about far enough in this country."

Payne queried, "Didn't you go up to Washington and ask that the Connally Act be extended for two years?"

Thompson answered, "Yes, sir; because it is a help to us, but when a man wants to ship his oil within the state of Texas for Texas use there is no need for him to go to the Federal Tender Board for a tender to do that, and to impute the motives of this commission is something that we won't allow anybody to do."

"I hope you will attend to it," Payne retorted.

"We will," said Thompson, "and we have been attending to it."

S. A. Guiberson, Jr., East Texas producer from Dallas, outlined conditions in the field as he saw them and recommended a program for controlling the water. (See page 17, this issue.)

The essential feature of this plan was to put a total displacement factor on the field, that is, to permit each well to produce its allowable daily and fix the allowance on total fluid produced. Thus a man with a 20-barrel allowable on the west edge of the East Texas field might produce ½ barrel of oil and 19 barrels of water.

Guiberson pointed out that the commission was now approaching the limit provided in the Marginal Well Law in fixing the allowables for the East Texas field, and that a spread must be maintained between the best well and the poorest in the field. For that reason, he thought that his simple plan would be the most practical.

Operators with west edge wells, however, were prompt to protest against the institution of this program, declaring that they would be able to skim a good deal of oil from that field if the water is produced, but to apply the total displacement factor to their wells would in effect close them in, and result in immediate abandonment of those properties.

Most observers were of the opinion that the Guiberson plan, while theoretically advisable, was impractical because of the effect it would have on west edge properties, many of which would be eliminated from the picture within a few days after such a program was instituted.

Increases for a number of fields were requested by operators in various districts, but later when the allowable order was issued the commission was found to have rejected all such pleas.

Rodessa allowable unchanged

October allowable of the Louisiana side of the Rodessa field was left unchanged at the figure for September. The field allowable is 50,000 barrels and the augmented allowable is 66,000 barrels, based 50 percent on acreage and 50 percent on bottom-hole pressures.

The total bottom-hole pressure for the Louisiana side of the field is 518,337 pounds. The acreage factor is 4.2238 barrels, and the bottom-hole pressure factor is 0.0637 barrels. Total acreage allotted to production is 7,812.8 acres.

Lisbon Increased

On the other hand the Lisbon field was given an increase of 2225 barrels for October over September, the coming month's daily field allowable being placed at 15,000 barrels, with an augmented daily field allowable of 15,600 barrels, the allocation to acreage being 11,700 barrels and the allocation to bottom-hole pressure being 3900 barrels. The area allotted to oil wells is 2292.3 acres, the acreage factor being one acre equals 5.1040 barrels. Total bottom-hole pressure for the field is 140,913 pounds. The bottom-hole pressure factor is one pound equals .02768 barrel. Gas that may be produced with the oil is limited to 38,426,000 cubic feet daily. Allocations are based on 126 wells.

Sligo field, Bossier Parish, was given an October daily field allowable of 600 barrels with an augmented daily field

TABLE 2

East Texas Field Bottom-Hole Pressure Readings

	OLD KEY WELLS			NEW KEY WELLS					
MONTH	Average Pressure 34 Wells	Monthly Pressure Drop	Pressure Drop Per Million Bbls. Withdrawal	No. Wells	Average Pressure	Monthly Pressure Drop	Pressure Drop Per Million Bbls. Withdrawal	Production Per Month	Weighted Average Pressure
March, 1937	1170.47	.35	.026	84	1172.69	No comparative figures		12,681,352	.....
April, 1937	1167.61	2.86	.202	95	1171.66	1.03	.073	14,141,202	1161.44
May, 1937	1164.76	2.85	.207	96	1169.44	2.22	.161	13,789,483	1152.33
June, 1937	1163.26	1.50	.104	92	1162.90	6.54	.456	14,336,398	1142.67
July, 1937	1155.06	8.20	.586	90	1157.60	5.30	.379	13,999,013	1145.02
August, 1937	1141.35	13.71	.939	89	1144.22	13.38	.916	14,599,035	1133.78
September, 1937	1130.74	10.61	.720	91	1131.33	12.89	.875	14,730,918	1119.65
		39.73				41.36		101,277,401	

Total decline in pressure for New Key Wells for 7-month period = 41.36 pounds, or a drop of 0.408 pounds per million barrels allowable.

Total decline in pressure for Old Key Wells for 7-month period = 39.73 pounds, or a drop of 0.392 pounds per million barrels allowable.

Difference for 7-month period ..... 1.63 pounds or a drop of 0.016 pounds per million barrels allowable.

allowable of 2000 barrels, of which allocation to acreage is 1500 barrels and allocation to bottom-hole pressure is 500 barrels, the area alloted to oil wells being 220 acres, with an acreage factor of one acre equals 6.818 barrels. Total bottom-hole pressure is given as 14,046 pounds, with a bottom-hole pressure factor of .03559 barrel. There are 17 wells in the field, 11 being classed as gas wells.

Cotton Valley Still Rated Gas Field

Still classed as a gas field, the daily allowable of the lower Marine 8000-foot Cotton Valley producing area was continued at 35 million cubic feet daily allocated among 17 wells. The total allocation to acreage being 26,250,000 cubic feet daily and to bottom hole pressure, 8,750,000 cubic feet. Total acreage allowed to producing wells is 1080 acres and the acreage factor is one acre equals 24,305.5 cubic feet. Total bottom-hole pressures are given as 66,-300 pounds and the bottom-hole pressure factor used is one pound equals 131.97586 cubic feet.

All wells on 40-acre tracts are given a daily allocation of 1,486,926 feet, all on 60-acre tracts are given 1,973,036 cubic feet and all on 80-acre tracts are given 2,459,146 cubic feet.

Change Moore method

Output of the Moore pool, Cleveland County, will come under restriction of its gas-oil ratio rather than a daily oil allowable October 1. The Oklahoma Corporation made this change in the control method for this field after a hearing as to reduction of reservoir energy. Wells with gas-oil ratio less than 4000 cubic feet will not come under the restriction.

For other wells the gas-oil ratio is fixed not to exceed 4000 cubic feet of gas for each barrel of oil produced. Output will be determined by multiplying the allowable production of each well by the gas-oil ratio set in the order, and the total shall be divided by the actual gas-oil ratio of each well. Producers will have the option of producing on a lease basis rather than a well basis.

A hearing to determine the basis for fixing the allowable for Oklahoma during October is scheduled for rooms of the Corporation Commission in Oklahoma City September 28.

Take Arkansas Pressure

Bottom-hole pressures are being made in the Miller County, Arkansas, extension of Rodessa, which now has 13 oil wells, as a basis for allocations for the month of October which will be made on a basis of 75 percent acreage and 25 percent bottom-hole pressures. In this respect Arkansas will follow Louisiana's rule as it applies in the Libon field, where there is a 20-acre space rule.

While the October allowables are not expected to create any dissatisfaction should this part of Rodessa develop widely, it appears certain that litigation over allocations will ensue. It will be interesting to watch what the court decisions may be, as the Arkansas Board of Conservation is given more or less blanket authority by the Arkansas legislature, while in Texas the Railroad Commission, which regulates production, has its powers definitely defined.

Oil in the Courts

With big trust trial but week off, attorneys and oil men move in on Madison . . . Another separate trial denied . . . File suit alleging gas dilution.

ALTHOUGH actual trial proceedings will not start until October 4, preliminary activity got under way last week in the industry's greatest legal battle since the busting up of Standard Oil Company. Twenty-four companies and numerous prominent petroleum men are charged by the federal government with violating United States anti-trust laws by allegedly maintaining gasoline prices through a buying pool. The trial is to take place at Madison, Wisconsin, and for the next several months it will be one of the leading oil capitals of the nation.

The closeness of the trial at Madison overshadowed other legal developments of the week, which included the filing of a $42,000,000 damage suit against a group of gas companies, in which they are alleged to have fraudulently diluted natural gas sold to domestic consumers over a period of nine years.

Madison trust suit

MADISON, capital city of Wisconsin, enjoyed a "leasing play" during the past week and in another seven days will be the focal point of the nation's oil industry.

Unlike the leasing activity in neighboring Illinois where oil pools and field extensions are being made weekly on undeveloped acreage, the Madison play was for developed tracts near the federal building and in the more outlying exclusive residential districts bordering on the city's four beautiful inland lakes.

The leases were taken for the most part, for three months, with monthly options beyond December 31. They were on office suites to be occupied by 44 men prominent in the nation's oil industry who will transfer their business activities to Madison from Tulsa, Shreveport, Ponca City, Bartlesville, St. Louis, Kansas City, Baltimore, New York City, Cleveland, Chicago and other cities while their attorneys argue their innocence of charges of conspiracy to violate the nation's anti-trust laws before a twelve-man jury which will sit in the courtroom of Federal Judge Patrick T. Stone.

Other leases were taken on offices to be occupied by attorneys of the individual defendants, and of the 24 major oil companies and three trade journals which are jointly charged.

In the residential areas, leases were taken on apartments and furnished homes to be occupied by individual defendants, attorneys and their families. Reports on rentals being paid for suitable office and living quarters in this city of 60,000 bring to mind stories of enormous prices paid for desirable acreage in the nation's oil producing areas at the height of successful development campaigns. Scores of families are vacating their homes temporarily moving to smaller quarters or doubling up with friends and relatives so as to obtain some of the "lease money" that has been offered here during the past week.

Defense attorneys believe the trial, which opens next Monday, October 4, will take three months. Government attorneys are hopeful that it can be disposed of sooner. Disposition of this case leaves another indictment which charges many of the same individuals and companies, indicating the possibility that many oil officials may be forced to make their headquarters here for six months.

The trial is on charges of conspiracy to artificially raise and fix prices of gasoline sold in 10 mid-western states through the operation of buying pools in the East Texas and Mid-Continent fields. The second indictment charges conspiracy to restrict jobbers' margins of profit through the use of uniform contracts. The matter had its official beginning when a delegation from the National Oil Marketers Association on June 17, 1935, visited the department of justice to request an anti trust investigation. Data and information gathered by justice department investigators was first brought before a federal grand jury in May, 1937, and indictments were returned July 28 and November 6.

Court Activities

While frantic preparations were being made behind the scenes to bring the machinery of the federal court into order to handle what has been publicized as the the nation's greatest anti-trust drive since the turn of the century and to properly establish offices and living quarters for defendants and attorneys, several pre-trial matters were disposed of by the court during the past week.

Judge Stone Tuesday heard and denied a motion for a separate trial filed on behalf of Barnsdall Refining Company and Edward B. Reeser, its president. General J. F. O'Ryan, attorney for the company, argued that the company was not organized until a month after the conspiracy was alleged by the government to have been started.

Government attorneys were preparing to issue a formal notice calling all but nine, and probably 10, of the 54 individual defendants named in the indictment for trial "with the approval of the court." The government, it has been learned, will consent to a severance on behalf of Frank R. Coates, New York, vice president of Cities Service Export Oil Company, who is seriously ill. It was also believed that a severance also would be granted Edward Karstedt, Denver, former vice president of Continental Oil Company, who underwent a second serious operation in a Denver hospital Tuesday.

Others who will not be called at this time are: John A. Brown, New York,

president of Socony-Vacuum Oil Company, Inc.; D. W. Harris, Shreveport, general manager of Louisiana Oil Refining Corporation; four officials of Gulf Oil Corporation, J. F. Drake, Pittsburgh, president; William V. Hartmann, Pittsburgh, vice president; H. C. Meyer, Pittsburgh, buyer, and O. H. Carlisle, Houston, buyer, and Bernard L. Majewski, Chicago, vice president in charge of sales for Deep Rock Oil Corporation, and Keith Fanshier, Chicago, petroleum editor of the Chicago Journal of Commerce.

It has been indicated that the government may call Majewski and Fanshier as witnesses, in which event they will gain automatic immunity when they testify. The Gulf officials resisted removal to Madison from their home districts, and appeals on decisions of federal courts in Pittsburgh and Houston have not yet been heard.

Subpoenas have been sent to government witnesses demanding their appearance here for the trial. Among them are believed to be Walter P. Jacobi, of Wadhams Oil Company, Tulsa; Neal Buckley, of Cities Service Oil Company, Tulsa; L. S. Wescoat, of Pure Oil Company, Chicago, and J. P. Mosher, of National Petroleum News, Cleveland.

Huge gas suit filed.

The Columbia Gas & Electric Company, six affiliated companies and 14 of their officers were made defendants in a $42,000,000 damage suit filed by City Attorney John L. Davies, of Columbus, as an individual gas consumer and in behalf of approximately 700,000 Ohio customers of the companies. The action alleges fraudulent dilution of natural gas over a nine-year period and seeks treble damages against the defendants under the utilities commission law of Ohio.

Shortly after the suit was filed, Franklin County Prosecutor Ralph J. Bartlett announced he would open an investigation into circumstances which led to the action in common pleas court at Columbus.

Davies' counsel, which includes John W. Bricker, former state attorney general and recent Republican candidate for governor; John W. Huffman, a former member of the Ohio public utilities commission and a son-in-law of U. S. Senator Vic Donahey, and Park Chamberlain, New York City, filed the suit. The money, if collected, will be refunded to customers of the companies.

E. M. Tharp, Upper Arlington, one of the defendants and general manager of Ohio Fuel Gas Company, also a defendant, commented: "With the elements and the parties involved, I would say it is nothing more than politics."

Bartlett said he would question Davies, Bricker and Huffman and demand that "any individuals having possession of facts which constitute a crime shall make such facts available to the grand jury of Franklin County."

"I cannot help but wonder why the city attorney and the special counsel employed by the city," Bartlett said, referring to Bricker's and Huffman's connection with the city attorney's staff, "have seen fit to file a private law suit, which, if successful, will entitle them to vast private allowances as attorney fees in this case.

"If the facts in the petition are true, it constitutes nothing but a steal on the gas consumers of this community and, in my judgment, properly lays the foundation for criminal action in obtaining money by false pretenses.

"I am also interested in knowing just how long certain people have had possession of facts set forth in this petition and failed to bring it to the attention of the law enforcement officers of this county and the State of Ohio," Bartlett added.

Charges Fraudulent Dilution

The suit charges fraudulent adulteration of natural gas with 7 to 9 percent of inert flue gas or smoke during most of the period since 1929. It asks that the companies be enjoined from continuing the practice and that an accounting be made of funds allegedly illegally collected from consumers, amounting to $14,000,000.

Preston Oil Company, of Columbus, it is charged, bought gas from Columbia subsidiaries, burned the gas in the process of extracting gasoline and then sold the burned inert gas back to Columbia subsidiaries to be remixed with natural gas and sold to consumers as natural gas. In the process of burning, it is claimed that each cubic foot of natural gas increased to about seven cubic feet of inert, unburnable gas, and that the Preston company was paid originally at the rate of 35 cents per 1000 cubic feet for this inert gas while it paid only 20 cents per 1000 cubic feet for the natural gas which it burned. The amount paid for the alleged inert gas was later reduced to 16½ cents per 1000 cubic feet, the petition stated.

The adulterations are alleged to have been made at compressor stations at Pavonia, near Ashland, the Sugar Grove-Wheeler station, near Lancaster, and the Homer-Treat station, near Mt. Vernon, and without the knowledge of the state public utilities commission.

Davies estimated that consumers have been defrauded through the alleged adulteration at an average rate of $3 a year. The suit, if successful, would net the average consumer $81, representing three times the $27 of which he was allegedly defrauded over a period of nine years. The defendant corporations, either directly or indirectly, serve approximately 400 Ohio cities, villages and communities. The territory embraces the entire state with the exception of Cleveland and the northeast section which is served by the East Ohio Gas Company.

Besides the Columbia Gas, Ohio Fuel Gas, and Preston companies, defendant corporations are:

Columbia Oil & Gas Corporation, Wilmington, Del.; Northwestern Ohio Natural Gas Company, Columbus; Cincinnati Gas & Electric Co., Cincinnati, and the Dayton Power & Light Company, Dayton.

Individuals named besides Tharp, are:

Philip G. Gossler, New York City, chairman of the board of Columbia Gas; Edward Reynolds, Jr., New York City, president of Columbia Gas; Paul S. Clapp, Bexley, O., vice president of Columbia Gas; C. I. Weaver, Springfield O., president of Ohio Fuel Gas; Frank M. Tait, Dayton, president of the Dayton company; Hubert C. Blackwell, Cincinnati, president of the Cincinnati company; E. D. Bivens, Upper Arlington, O., treasurer of Ohio Fuel Gas; L. A. Seyffert, Bexley, O., treasurer of the Preston company; T. H. Kerr, Upper Arlington, chief engineer of Ohio Fuel Gas, and Thomas B. Gregory, John G. Pew, both of Pittsburgh; Charles A. Munroe, Norwich, Conn., and James M. Hutton, Cincinnati, listed as members of the Columbia Gas Company's executive committee.

Refusing detailed comment on the suit until he learned more of it, Blackwell, interviewed in Cincinnati, said that "if a suit of that nature has been filed, it is entirely out of the scope of Cincinnati Gas & Electric Company. Here in Cincinnat, we mix natural gas with coke oven and water gas which we manufacture here."

Meetings

Many associations are to hold meetings during the month of October . . . Several are scheduled to be held during Oil-World Exposition week in Houston.

CONVENTION season for the oil industry has arrived. Numerous organizations have announced plans for coming meetings.

The next week, September 27 to October 1, the American Gas Association will be meeting in Cleveland, Ohio. The Petroleum Division of the American Institute of Mining & Metallurgical Engineers will convene at Oklahoma City on October 7 and 8. The Fifth Annual Illinois Mineral Industries Conference, which will be headlined by discussions on oil this year, will meet at Urbana on October 8 and 9. The Oil-World Exposition will be held in Houston from October 11 to 16, inclusive.

Besides these meetings, programs for several others have been announced more recently.

Independents plan interesting program for convention

The Independent Petroleum Association of America, led by aggressive Charles F. Roeser, comes to Houston October 14-16 expecting to enjoy its most successful annual convention and anticipates more than 500 oil men from all oil-producing states of the nation will join the Houston membership at the meeting, which will be held in the Rice Hotel.

Several meetings will be held Wednesday, day before the convention opens. From these assemblies, composed of oil men strategically located so that each committee will represent a cross-section view of the nation's feeling, will come reports on all departments of oil production, oil taxation, oil demand, oil policies generally

and, newest and regarded as highly important, oil's relation to the general public.

H. B. Fell, executive vice-president, and C. E. Buchner, executive secretary, have mapped a comprehensive program of discussion for the membership.

To Discuss Unnecessary Drilling

President Roeser, Russell B. Brown, general counsel of IPAA who keeps his office in Washington, and Fell will speak the morning of October 14. Their subjects will consider oil's problems from a national viewpoint.

After a luncheon in the Rice Hotel ballroom, C. P. McGaha, chairman of the committee on unnecessary and excessive drilling, will lead off. Next will come H. M. Stalcup's committee reporting on oil activities generally. After each committee report, the subjects covered will be thrown open to general discussion on the floor.

A boat trip to the San Jacinto Battlegrounds and a barbecue dinner complete the first day's program.

"Depletion Allowance" a Subject

Friday at 9:30 a.m. the convention will take up one of the most important problems faced by all oil men, the attempt by the treasury department to kill the depletion allowance granted all oil producers in income tax matters. With millions of dollars at stake, this matter probably will draw a full house for the morning meeting.

E. H. Moore then will report the tax policy committee's findings, Burdette Blue, the public relations committee's report.

The Friday morning session will be concluded with reports and discussions on domestic asphalt and oil royalties, and a report by Marvin Lee, chairman of the constiution and by-laws committee.

Hughes Tool Company will be host to the delegates at a barbecue luncheon Friday at Gulf Brewing Company's brewery. Admission will be by tickets, which will be distributed to registered members.

In the Friday afternoon session, the convention will discuss the relation of oil imports to domestic production after a talk on this matter by Wirt Franklin. (IPAA was organized in 1929 primarily to secure an adequate tariff on foreign oils.)

Ickes to Speak

At 7 p.m. Friday comes the highlight of the IPAA convention, the annual banquet at which Harold F. Ickes, secretary of the interior, will speak. Joining with IPAA in the banquet will be the Houston Wildcats of the Mid-Continent Oil & Gas Association and the Oil World Exposition, Inc., sponsor of the Houston Oil Show.

Saturday morning, IPAA will elect officers and hear a report from the budget and finance committee.

Arrangements Committee

Working to see that the convention comes along without interruptions will be George A. Hill, Jr., chairman of the general arrangements committee, and his committee chairmen, E. A. Showers, Ralph A. Johnston, Haygood Ashburn, H. R. Cullen, Colonel R. C. Kuldell, Frank Carothers, W. S. Noble, George W. Strake, George Sawtelle, T. J. Donoghue, Winston P. Henry and Jim Carroll.

Mexican-German Oil Alliance Seen in Visit of Officials

Mexico City, Mex. — Prospects of a Mexican-German oil alliance, or at least an agreement, were seen in petroleum circles here September 23 as a result of the announced arrival here soon of H. Bentz, a high official of the Hitler national economy ministry, and F. Erk, an executive of the Bank of Dresden.

The Germans are reportedly to confer extensively with officers of the Mexican ministry of national economy and the General Administration of National Petroleum, the Mexican government's oil company, about petroleum matters and are to stay here for several weeks in connection with a mission of their government.

Mid-Continent Oil & Gas Association plans program

A full program is planned under direction of E. L. Smith for the annual meeting in Dallas October 29 and 30 of the Mid-Continent Oil & Gas Association in the Baker Hotel. Sessions start at 9 a. m.

The morning of October 29 (Friday) will be devoted to listening to an outstanding speaker, business sessions, awards to oil men who have performed outstanding service, election of officers and committee reports. This session will conclude in time for the annual Texas Oil Men's Golf Tournament Friday afternoon, which will be handled by Jack Pew, Sun Oil Company.

Dallas Wildcats are planning the annual dinner and stag party, but have not announced whether it will be Friday or Saturday night.

Directors of the association will meet Saturday morning and adjourn in time for the University of Texas-Southern Methodist University football game, for which 500 tickets have been reserved for those attending the convention, according to George C. Gibbs, executive vice president.

A.S.M.E. to hold meeting in Houston on October 12

The petroleum division of the American Society of Mechanical Engineers will hold a meeting in connection with the Oil-World Exposition in Houston on the evening of October 12, 1937. The program will be under the sponsorship of the exposition's drilling committee, of which Joe Russell of Gulf Production Company is chairman.

Several papers covering the mechanical phases of the petroleum industry are being prepared by members of the Houston division of the American Society of Mechanical Engineers. The program is being handled by the society's committee which consists of W. F. Herbert, The Texas Company, chairman; W. P. Preston, Texas Gulf Sulphur Company; W. W. Scott, Humble Oil & Refining Company; F. M. Leverett, The Texas Company; D. D. Alton, Southern Pacific Lines; A. B. Steen, Jr., Humble Pipe Line Company and Nathan Janco, Reed Roller Bit Company.

This meeting is one of a number which will be held in connection with the Houston show. Programs for all the conferences and meeting are now well under way with many of the papers already prepared. The programs will be given during the afternoons and evenings throughout the entire week of October 11 to 16, inclusive, during which the Oil-World Exposition will be held. The aim of the exposition is to disseminate data on operating methods for all branches of the industry as well as to present a complete display of equipment for field and plant use.

Interstate Oil Compact to meet in Houston October 14

Work of the Interstate Oil Compact Commission for the next two years will be outlined and planned at a meeting called by Chairman Ernest O. Thompson at Houston, Texas, October 14 and 15. The sessions will start at 10 a. m.

Thompson will represent Texas at the compact meeting. Other state representatives are: Hon. Warwick M. Downing, Colorado; Hon. William Bell, Illinois; Hon. Ernest E. Blincoe, Kansas; Hon. Hiram M. Dow, New Mexico; and Governor E. W. Marland or Tom Anglin, Oklahoma.

John R. Suman, president of the Oil-World Exposition, Inc., invited the commission to hold the meeting in Houston while the oil show is in progress and while the Independent Petroleum Association of America is meeting.

East Texas A. P. I. to meet October 5 in Kilgore School

Plug back work in East Texas, following presentation of a paper on that subject by R. H. Maples of Cities Service Oil Company and F. J. Mikeska of Gulf Oil Corporation, will be one of the most important matters discussed at the East Texas Chapter of the American Petroleum Institute in the Kilgore High School auditorium at 8 p. m. October 5.

Dr. I. F. Bingham will discuss slow set cement, and this will be added to by Phil Montgomery of Halliburton Oil Well Cementing Company.

A representative of the Texas Railroad Commission and W. E. Schoeneck of Ohio Oil Company will lead a discussion on the use of malodorants in natural gas, following presentation of a paper on that subject by an unannounced speaker.

Initiate plans for train from Houston to A. P. I.

Plans are under consideration for a special train to the American Petroleum Institute from Houston, leaving Houston on the evening of Saturday, November 6. It is planned that the train leave late enough for Houston members of the A.P.I. to attend the Rice-Arkansas football game in Houston on that day.

It is planned to leave Chicago in sufficient time to get the Houston oil men back home in time to see the football game in Houston on Saturday, November 13.

Water Withdrawal Rates INFLUENCE EAST TEXAS PRESSURE

By
S. A. GUIBERSON, JR.,
President,
Guiberson Oil Company

IN the accompanying article, which was presented in written form before the Texas Railroad Commission statewide proration hearing at Austin on September 20, the belief that the dissipation of water drive energy in the East Texas field is just as important as the dissipation of gas energy, and that the production of a barrel of water has the same influence on bottom-hole pressure as the production of a barrel of oil.

In view of the increasing volume of water production in the field, it is viewed as an increasing danger. Consequently, the suggestion is made that the Railroad Commission proration rules for the field take this factor into consideration by establishing regulations governing the production of water as well as oil.

ROUGHLY speaking, there are some four billion barrels of oil in the East Texas field trapped between a closure on the east side of the field and an immense body and pressure of water entirely surrounding this oil on the west, north and south. This four billion barrels of oil is contained in the Woodbine sands, having an average of approximately 50 feet in thickness.

Sand Conditions

As we all know, the Woodbine sands are comprised of fine grained and coarse grained layers, more or less lenticular, and interspersed with shale. The fine grained sands carry oil the same as the coarse grained sands, but oil and water naturally flow or travel more freely through the coarser grained sands. Manifestly, it is important that the movement of oil through the entire series of Woodbine sands must be restricted to the rate of movement of oil through the finer grained sands; otherwise water would drive ahead through the coarse grained stratas and leave the oil contained in the fine grained sands behind, and result in the ultimate loss of millions of barrels of oil.

We all know that the Woodbine sands are continuous from the outcrop at a point west of Dallas, Texas, to the contact or closed east edge of the East Texas oil field. The depth of the Woodbine sand from the surface on the west edge of the East Texas field is approximately 3600 feet, and the surface elevation of the East Texas field is around 400 feet lower than the outcrop of the Woodbine sands west of Dallas, so that, from a static head standpoint, there are approximately 4000 feet of water pressure locking in the oil in the East Texas field on the west, north, and south. Four thousand static feet of water weigh approximately 1680 pounds, and that is where the bottom-hole pressure on the west side of the oil field comes from, as we know that the Woodbine sand is normally a water sand and that it is entirely filled with water from its outcrop to the point where it lies under the oil on the west side of the East Texas field. The contact of the water and oil on the west, north, and south is not a straight wall or a perpendicular line, but it is a flat water line of probably 1½ miles in width, with a feather edge of oil on the west and a feather edge of water under the oil on the east. There is then a water pressure drive straight up extending the full 1½ miles in width, having a pressure ranging from around 1650 pounds down somewhat toward its eastern edge.

Gas In Solution

There originally was no free gas in the entire East Texas oil field, all the gas being held in solution in the oil, and there never will be any free gas in that field providing the bottom-hole pressure is not permitted to drop below around 800 pounds. Just as long as the bottom-hole pressure is held at a constant level the wells in that field will continue to flow, due to the bottom-hole lifting pressure, plus the release of the gas from the oil as the oil nears the surface. We have learned from four or five years of experience and testing

that the water drive around the west, north, and south can push only a fixed number of barrels of fluid back to the east side of the field. We have learned from these years of experience that whenever more than that fixed amount of liquid was taken out of the field the bottom-hole pressures all over the field dropped. We have learned that when the field was entirely shut down the bottom-hole pressures increased steadily, so that from these years of experience the Railroad Commission has been able to determine just what amount of liquid it can permit being withdrawn to maintain the constant bottom-hole pressure. The loss of that bottom-hole pressure would permit a rush of water through the more porous grained sands clear through the field with the isolation and trapping of millions of barrels of oil in the closer, tight-grained formations.

Water Dissipation Important

It seems to me that the dissipation of water drive energy is similar to the dissipation of gas energy. Several years ago the operator, with acreage on the top of a structure, would blow millions of feet of gas into the air in order to reduce the gas pressure sufficient for oil to come up into his wells and then produce a small amount of oil with high gas ratio. In this manner not only a tremendous value in gas was lost, but the pressure value of that gas was dissipated, with a resultant loss of millions of barrels of oil that would be left in the oil formations. The value of this gas as a producing agent finally became recognized so that today our Railroad Commission and conservation bodies in every oil-producing state have been given authority and power to regulate the amount of gas that may be produced with a barrel of oil, and no operator is permitted to blow gas into the air in a wasteful manner.

In the same manner the Railroad Commission should have, and I believe they clearly do have, the authority and the power to regulate the production of water from an oil field where it can be shown clearly that the water in that field is the most important element in the production of oil, and where it can be shown clearly that the withdrawal of water in excessive amounts will result in the loss of enormous quantities of oil production.

No truer and finer example of real conservation than that in force in the East Texas oil field has ever been witnessed, and the Railroad Commission must be commended for its adherance to its rules and regulations against protests, which at times have been none too easy to oppose.

Need Water Rate Control

The time has arrived, however, when a factor in the conservation of the East Texas oil field must be taken into consideration and that factor, unless controlled, will tear down all ability to maintain the flowing life of that great field. That factor is the water withdrawal from the field. I maintain, and I defy anyone to successfully contradict my contention, that the production of a barrel of fluid from that field, whether it be oil or water, has the same influence on the bottom-hole pressures.

If the production of approximately 450,000 barrels per day is the limit that will maintain present bottom-hole pressures, then I maintain that any additional amount of fluid, whether it be oil or water, is bound to lower bottom-hole pressures. At the present time there are between 75,000 and 100,000 barrels of water being pumped out of that field, and the result is a lowering of bottom-hole pressures, corresponding exactly the same as though that additional 75,000 to 100,000 barrels of water had been an equal amount of additional oil.

In practice, what really is happening is this: by producing a very large amount of water from wells that normally would be flooded by the gradual water rise level, the water level around such wells and over the entire west, north, and south sides of the field is being held down so that the normal level of the oil is held down and the well continues to make its allowable of oil, but with as high as one and even two thousand barrels of water per day.

Danger Is Increasing

It is easy to see that this is an ever increasing danger. More and more wells will start to produce water and more and more water will be pumped, resulting in the entire loss of the water drive. Assuming that only 450,000 barrels of water will flow through the Woodbine sands against the normal bottom-hole pressure of the field, then it is conceivable that by pumping 450,000 barrels of water the entire water drive would be reduced to a minimum, and the field as a whole would lose its bottom-hole pressure to a point where the gas being held in solution would be released. Once this gas in solution is lost, then the agency which brings the oil out of the formations to the wells would have been dissipated and dead oil left in the formations, never to be recovered.

Commission Has Power

It is my contention that the Railroad Commission has the power to make rules and regulations and to control any agency that is harmful to the recovery of the greatest amount of oil. Clearly the water pressure and water drive are the most important agencies in the greatest recovery of oil from the East Texas field, and I believe that the Railroad Commission has the right and the authority, and that it is clearly its duty, to restrict anything that would result in great waste and the loss of millions of barrels of recoverable oil.

If the production of water is restricted in the same way as the production of oil, then each year a certain number of wells will be lost in the gradual raise of the water level, and this number of wells will approximate very closely the number of new wells drilled each year. That the restriction of water production will work hardships on some producers is to be deplored, but this is a problem where the great benefits to be derived from such conservation of water drive so far surpass the loss to the few individuals that there would seem to be no way in which the Railroad Commission could help but perform its duty.

Proration in the East Texas oil field is now down to a point where practically all wells are being produced as marginal wells. There is only one basis for proration in that field and that is maintaining of bottom-hole pressure. Any attempt to reduce the marginal well allowance that would reduce a flowing well below 20 barrels per days doubtless would result in the entire breaking up of proration through court orders. Especially would that be the case if it could be shown clearly that the water pressure that maintains the required bottom-hole pressure was being dissipated, with no effort on the part of the Railroad Commission to conserve same.

I have given this rather long statement of my views as I realize that it is a problem that must have some solution, and, if my reasoning is in error, or if there is any remedy other than the one that I see, there should be no time lost in putting some remedy into practice.

Sixteenth Article of a Series

Life of Belting

DEPENDS ON PROPER

Selection, Care and Installation

By BRAD MILLS, Associate Editor

OIL field belting plays a very strenuous role in the transmission of power. Its service life usually depends on the care exercised in the selection, installation and operation of the product, since the nature of the work performed by belting calls for a definite care and maintenance program. The service obtained from many belt installations has been only a small fraction of the service originally built into the belting. Various abuses have crept in to shorten the useful life of quality belting that had no chance to show its real wearing qualities.

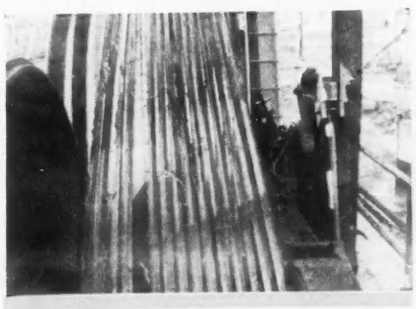
An analysis of several hundred belt failures places the bulk of the blame on the operator. Manufacturers often make adjustments where lack of tangible evidence of abuse is the deciding factor in the decision, despite indication of neglect on the operator's part. Use of the wrong belt or one too light for the job has been the cause of frequent failures that should not occur the second time.

An inspection of belt installations in various fields has revealed a number of surprising operating practices. In many instances the operator has given little thought to belt requirements and limitations. Use of the wrong type belt, belts too light for the work performed, unbalanced equipment, weak supervision, and poor operating practices are factors limiting belt performance in many districts.

It is difficult to classify belting abuses in definite groups, but for practical purposes the following division may be used:

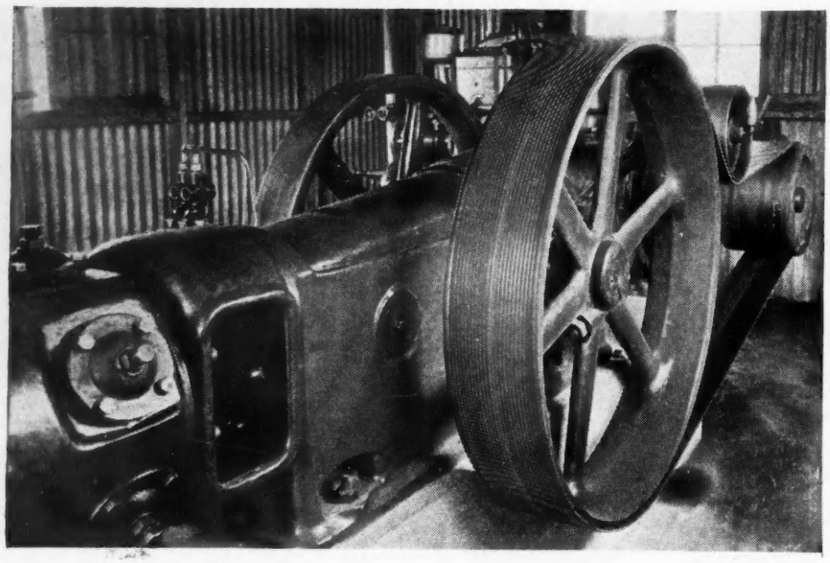
1. Selection or design abuses.
2. Installation abuses.
3. Operating abuses.

Oil on the surface and improper tension have almost ruined this expensive V-belt installation.



Flat and V-Belts

It is not the intention of this article to discuss the relative merits of flat belting and V-belting, but rather to treat both types as one subject. In most of the cases involving abuse or care and maintenance, it is possible to apply each practice under consideration to the operation of both flat belts and V-belts. In a few installation and operating problems, the type of belting may



At left: A flat belt drive used for air lift work in East Texas field. Below: Effect of oil on a flat rubber belt. It causes the rubber to swell and leads to a bump, or raised spot in the fabric. The bump wears off, resulting in raw places and cracks.

affect the procedure, but most of the basic principles equally involve flat and V-belting. Such factors as adequacy of belting, tension, alignment of machinery, and diameter of pulleys are important considerations that affect all types of belting. The V-belt should be considered a more recent development than the flat belt, and it usually is used on short drives. Since the V-belt drive involves the use of a number of narrow belts, this type of power transmission medium should be considered both singularly and collectively.

Selection of Flat Belts

Proper selection of the flat, multi-ply belt is a major contribution to belt service. Many operators attempt to operate all types of installations with one type of belt, a practice that has given a short service life on most of the heavy installations. A mechanical engineer recently investigated a number of belt failures, and found that the operators had been purchasing and installing belting on a basis of guesswork and precedent.

The chief cause of belt failure is the use of belting too light for the work. Many installations may be found with 12-inch, 6-ply, or 14-inch, 7-ply belting, where the characteristics of the drive and the horsepower developed definitely call for a 20-inch, 6-ply belt. A contributing factor to under-belting is the small pulleys used by various manufacturers of oil field equipment, but this phase of abuse will be discussed under operating abuses. A major belt manufacturer has demonstrated that in many instances the use of correct size and type of belting will double and triple belt life.

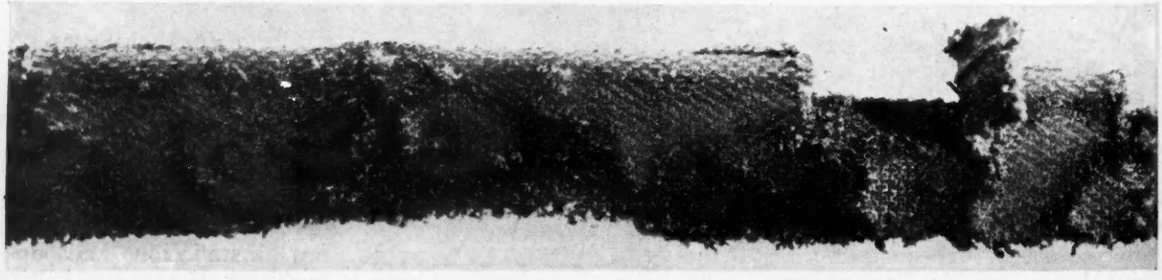
The "improper recommendation of proper belt," as one mechanical engineer has stated, is a fault shared by several agencies between the manufacturer and the user. It may be the fault of the belt salesman recommending the belt, the field superintendent, or the policy of the oil company.

A common error is the selection of a belt too thin sary horsepower indicated for the installation. In pulling the load under such a condition, the belt is subjected to a terrific tension (tight side and slack side). This results in excessive belt stretch, constant cutting, and finally, a dead belt.

The same condition and result apply to the selection of too thick a belt for a specific diameter pulley. In either instance, a belt so installed will begin to whip immediately, shaking the life out of it in a short time. The selection of a belt should depend on the work it is to perform, just as the selection of an ordinary hammer, a wire line, or an engine is based on the same principle. Either extreme—heavy or light—can cause trouble.

In recommending flat belts for all oil field drives, it is wise to estimate a 50 percent leeway or safety margin whenever possible. A 100 percent leeway is a still safer practice. On any given belt drive, machinery gets out of alignment, water encroaches in the well to give heavier loads, and other factors work against steady operation. By "leeway" is meant margin in horsepower. If to lift a given number of barrels of oil and water requires 20 horsepower at the foot-speed the belt is expected to run, a belt that will give 40 horsepower at the same speed should be recommended. While not a fixed rule, a belt that will develop about the rated horsepower of the motor gives good service.

The use of a very light, or 5-ply belting with oil field drives has given trouble wherever tried. It is too light for such service, will not hold bolts if the

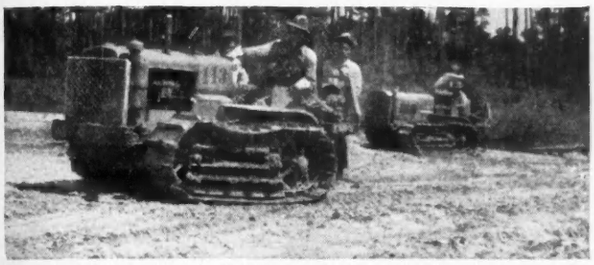


Again INTERNATIONAL TRACTRACTORS Score a Beat!

LAY 8 LINES OF PIPE Across the Houston Ship Channel in 3½ Hours

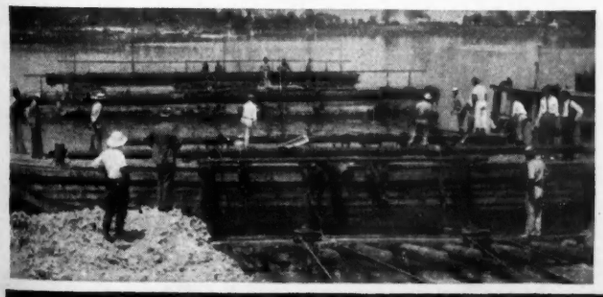
Close-up of two of the nine International TracTracTors that laid the Houston ship channel crossing. These are Model T-40's with winches which are operated by the powerful engine built into these units.

A view of the multiple assembly of pipe on the starting side of the channel with two International T-40 TracTracTors in action, pulling this mass of steel.



These two International T-20 TracTracTors held the pipe assembly in position as it was being pulled over the rollers on the starting side and unreeled the cable from the winches on the Model T-40's.

Above: The International TracTracTors provided a steady flow of power to the winch lines during the big pull when every minute counted. Below: the multiple pipe line as it was landed on the receiving shore side, just about ready to be tied into the main line system.



EIGHT LINES of pipe totaling 15,200 feet and weighing approximately 1,500,000 pounds with their rust-resisting wrappers and anchor weights lay parallel on the banks of the Houston ship channel near Baytown, Texas, one morning, waiting to be pulled in one mass across the channel which is over a quarter of a mile wide and 50 feet deep at this point.

For weeks, engineers and workers had prepared for this moment, making every possible arrangement so that this project, one of the biggest of its kind ever attempted, would go through without a hitch. Time was a vital factor. The War Department had given permission to suspend all ship traffic on this busy waterway for five hours. The job had to be finished in the allotted time. Actually, the crossing was made in three and a half hours.

The zero hour of 10 a.m. approached. Watches were out. Everyone was on the alert. Promptly on the hour, up went green signal flags in the hands of three signal men placed at vantage points, and the tractor operators gave their charges the gun. The huge mass of steel started moving under the power of five INTERNATIONAL TracTracTors. Six 10-inch lines, one 8-inch line, and a 3-inch communication line were dragged across the bottom of the channel by the INTERNATIONALS which delivered a steady flow of power like champions. As the pipes entered the water, the ends were secured to a barge and pontoons and thus directed across the channel. When the job was finished, a diver went down under and came back with the report that everything was okay. The difficult crossing was handled perfectly in record time.

Nine INTERNATIONAL TracTracTors were on this job. Five Model T-40's equipped with winches rated at 50,000 pounds each on a straight-line pull did the pulling. They were assisted by four Model T-20 TracTracTors. Three of the T-40's and two T-20's were on the starting side of the channel. Nearly a half-mile away on the other side were the other TracTracTors, the two T-40's with their winch lines connected to the forward end of the pipe assembly. After each pull of about 400 feet by the five T-40's, the T-20's rushed in and pulled the lines from the winches. These smaller TracTracTors were also used to keep the multiple pipe assembly from sliding off the rollers on the starting side.

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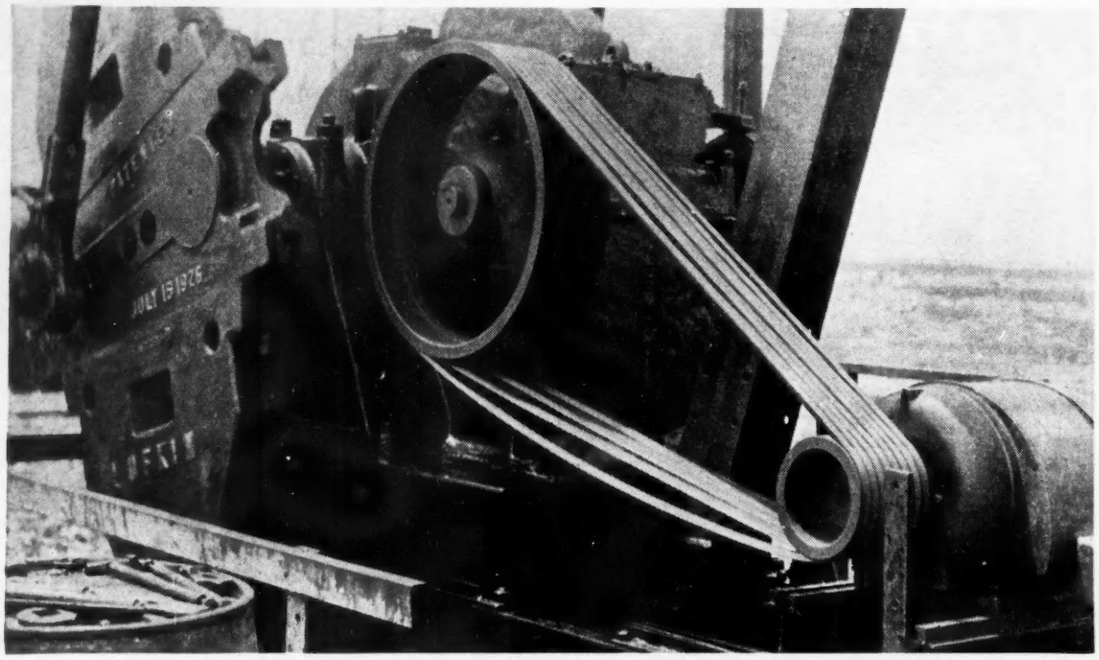


A V-belt installation with the belts poorly matched. Each of the properly fitting belts is forced to pull additional horsepower to make up for the ineffectiveness of the slack belt.

belt is butt-jointed, and breaks easily on a right-angle-clamp joint.

The oil industry is giving much more attention to the selection of belting than was shown prior to 1930. The slump in business after 1929 gave engineers a chance to check up on the various materials and performances. Those investigations led to the infinite care exercised today in the selection of belting. The larger companies with engineering staffs check the requirements of every installation before construction is started. Belt representatives are called in for advice, and consolidation of recommendations at such conferences usually leads to practices that give good belt service.

Selection of V-Belts

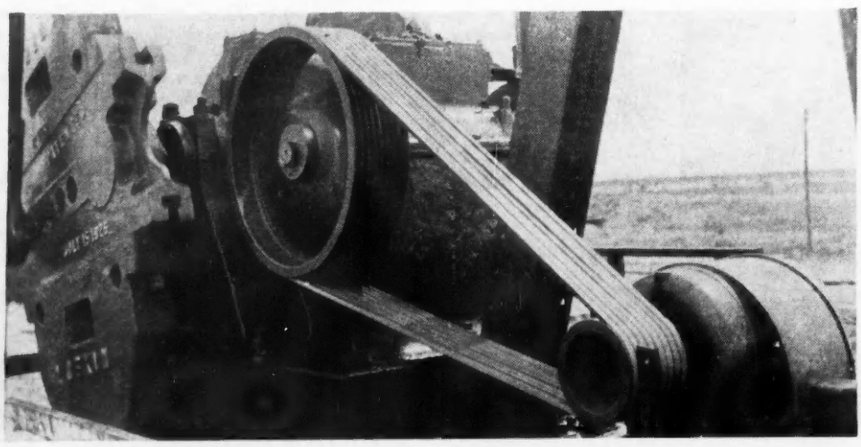
The selection of V-belts for any given installation is so closely conected with the selection of drives that both should be considered as one phase of operation. Use of the correct type V-belt is as important as the use of the correct flat belt, and many failures should be charged to selection abuses.

The horsepower to be transmitted by the drive, and the speed of the small sheave are the principal factors determining the required belt type. V-belts are made in a variety of sizes or cross sections, and it is from these sizes that the various effective combinations are used. Where the speed of the small sheave, or driver shaft, is very high and the horsepower transmitted is low, only the small size belts are used. Where the speed of the driving sheave is low and the horsepower transmitted is high, only the larger size belts should be used.

In most of the speed and power ranges, more than one size belt may be used. Obviously, all belts in a single installation must be the same size. Where more than one size of belt may be used, selection of the larger size will result in fewer belts and lower bearing loads. The second indicated size may be tried where there is any question as to efficiency, or where unusual factors are involved.

By dividing the total horsepower of the drive by the horsepower per belt, the number of belts required will be obtained. In the case of a fraction in the quotient, use a belt as if the fraction were a whole number. Any V-belt manufacturer will provide tables showing methods for determining the horsepower per belt. The size of belt used may be affected by the nature of the drive, as well as the load.

It has been proved by experience that a V-belt drive designed with-



At left: The same installation as above after belts had been matched and adjusted.

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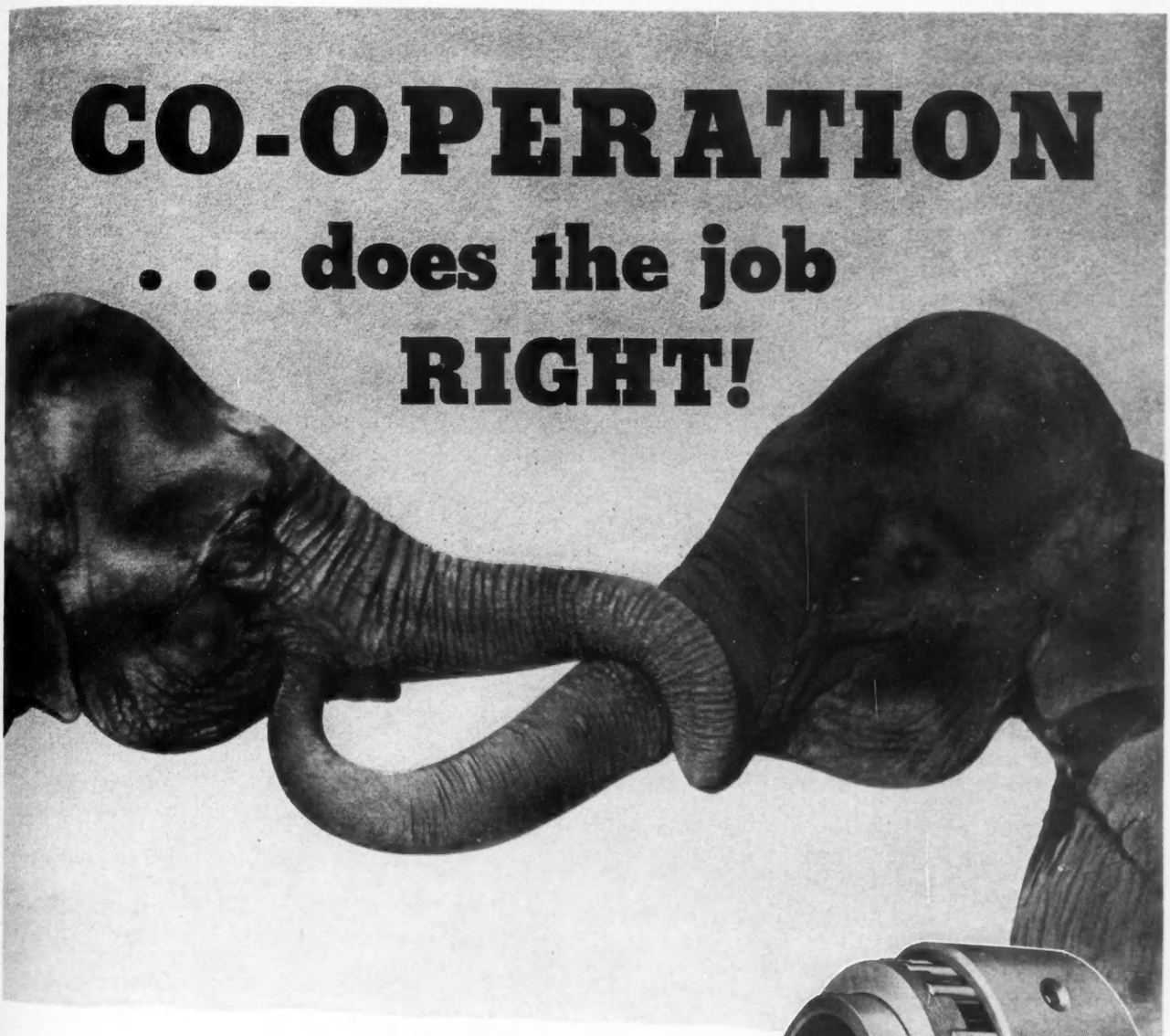

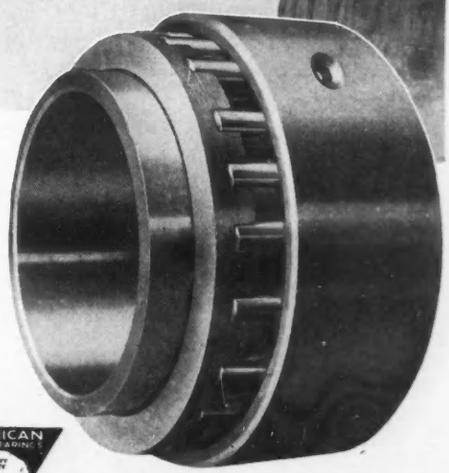

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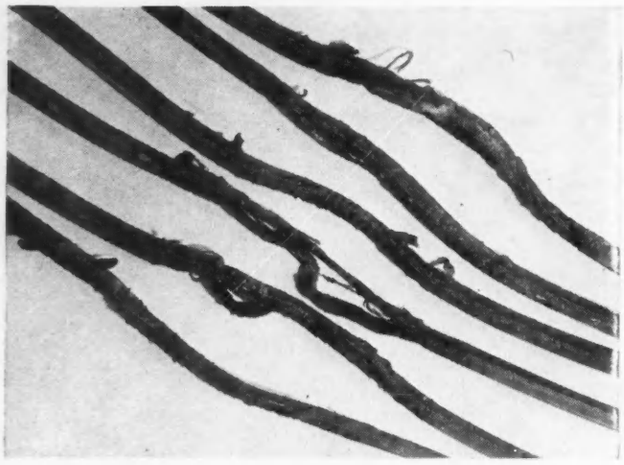

Penalty of slipping. Spinning the driver, or motor pulley, burned these V-belts when the compressor stalled.

out regard for operating conditions, or without consideration for limiting conditions of the type of motive power used, is doomed to early failure. In many cases of this kind, there has been a tendency to blame the belts. Subsequent examinations have proved in almost every instance the basic trouble lay in the design of the drive. The operator can avoid a long series of belt troubles by exercising a few simple principles of belt drive engineering when the drives are being considered.

Drives that are an integral part of machinery manufactured by reputable builders are in most cases designed with liberal safety factors, and little trouble can be traced to faulty design. The inexperienced person, however, who merely assembles a few belts with two sheaves and hopes he has the right combination, usually lets himself in for a lot of trouble.

A great deal of trouble and expense can be avoided by giving proper consideration to such factors as minimum sheave diameters where idlers must be used, number of belts (service factor), type of motive power (whether electric motor, single or multiple cylinder engine, or steam), and the use of largest possible section of belt. An analysis of belt performance on a large number of oil field installations indicates that the use of the largest possible belt section on the sheaves involved results in the most satisfactory drive. Use of a generous number of belts on each drive also has increased service life, where requirements have been especially severe. Other factors to be considered are space limits, the conditions under which the drive will operate, and the type of load it must handle.

Installing Flat Belts

It is easy to damage flat belts during installation. Although possessing great strength, they are susceptible to damage from side thrusts and to a strong leverage along the edges. Because of the flexible nature of flat belting, it is abused beyond its limitations.

The use of crowbars, heavy screw drivers, picks and other instruments has taken a heavy toll in belt life. Educational work of belt manufacturers has done much to eliminate the abuse during forcing belting on the pulleys. It is best to use belt stretchers in applying the belts to the pulleys, but where they are not available soft rope may be used. It is well to recognize in advance that the installation of a long, heavy-duty belt requires skill and patience.

A square should be used in cutting belts. If this is not done the belt runs crooked, weaves, and stretches one side of the belt over that of the other side. Failure to use a square in marking off the bolt holes usually results in the belt's pulling out at an improperly punched hole on a butt-jointed belt. Holes for clamps should be made with a punch slightly smaller than the bolt.

The use of pulley faces too narrow for the belt is a poor practice. With such an installation a heavier belt in the sense of plies is required to pull the load than would be necessary if a wider belt could be used.

Installation and use of a drive pulley with diameter too small invariably leads to trouble. A belt operating under such a condition must be "plied up" to pull the load and usually goes to an early death through "bootlegging."

The poor alignment of pulleys always has been recognized as a factor in early belt failure. This phase of operation might be termed both an installation and operating abuse. A pulley out of line causes the belt to run off the pulleys, and in time leads to cutting the edge of the belt or crimping a "railroad track" in it corresponding to the edge of the pulley. Often this overrunning of the belt off the pulley face results in rubbing the edge of the belt against the engine sill, sand reel sill, or anything near enough to come in contact with the edge of the belt. Fraying is the result of such carelessness.

Installation of V-Belts

The small size of a single V-belt is evidence that care should be exercised in its installation. Although a set of belts collectively is very strong and difficult to injure, the single belt may be damaged by heavy or unnecessary prying and crowding. The motor should

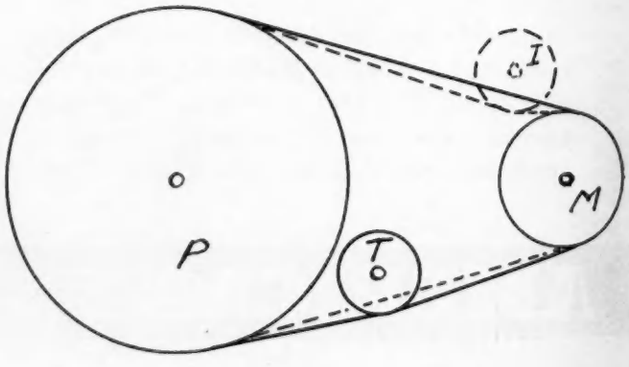

FIGURE 1

Right and wrong methods of installing idler, or belt-tightener pulley. M is the driver pulley. P is the driven pulley. The wrong method is where "I", the idler pulley, is so placed for counter-clockwise drive with the dotted line representing the belt position. The right method is represented by "T", the tightener pulley, for clockwise rotation, with the solid line representing the belt position. In either drive the tightener pulley always should shove out from the inside of the path travelled by the belt.

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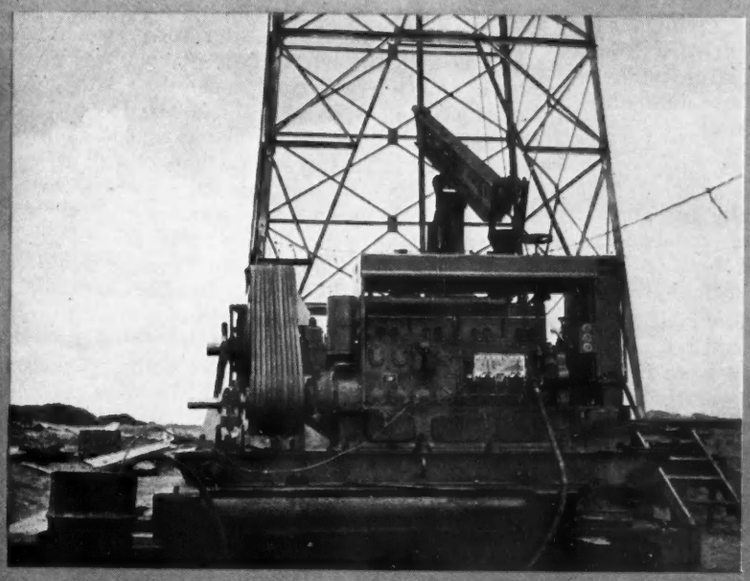

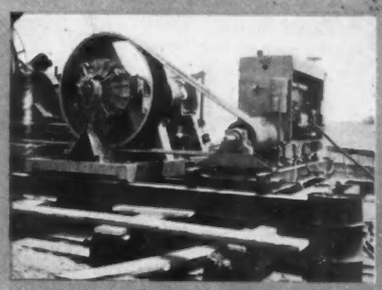

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be mounted on a sliding base, or other means provided for adjustment of center distance. Before installing the belts, pulley alignment and shaft position should be checked. Slack off on the takeup until the belts can be placed in the groves without forcing, and tighten the takeup until the belts are fairly snug. Belts should not be pried over the pulley grooves, as this may injure the belts and greatly reduce belt life. Pulley alignment should be checked and bearings examined for oil, and the entire drive should be clear and free.

The drive should be started when it is operating at full load and full speed, and takeup adjusted until only a slight bow appears in the slack side. Experience quickly shows the amount of bow allowed. As a general rule, proper tension can be determined by striking the belts with the hand. When too much slack exists the resulting vibration will feel "dead." Proper tension will give a live, springy vibration. It is not necessary to have the belts "fiddle string" tight for any type of load.

During the first three or four days of operation, the belts will seat themselves in the grooves and tend to slacken. Center adjustments should be made during this short period to compensate for the seating action and assure proper tension. Careful breaking-in of belts is not required.

The sheaves, or grooved pulleys, used with V-belts should be made of good material, the grooves should be uniform, and the grooves machined to give the belts the proper seat. A flat-faced pulley often can be used in place of the large grooved pulley, and where this type of large pulley is already available a saving may result. Belt manufacturers claim that the drive will be as satisfactory as if both the small and large pulleys were grooved. Such installations are in use in many areas and under several operating conditions.

Care of Flat Belts

Machinery should be checked occasionally for alignment. Misalignment of pulleys with its consequent adoption of various devices to hold the belt on the pulleys may cause serious damage to the belt.

Where the foot-speed per minute is too low, belt wear may be sharply reduced. Many operators will not agree with this statement, but belt manufacturers have found that a "creepy" motion of the belt gives a greater wear than a more rapid motion. In various fields operators slow down bandwheel powers to increase the oil lift.

Sag (Inches) on slack side of drive when running under full load	SPAN IN INCHES							
	10	20	50	100	150	200	250	300
From	.008	.03	.20	.8	1.8	3.3	5.0	7.3
To	.024	.09	.58	2.3	4.9	8.6	12.5	18.0

Vertical sag range permitted with V-belts where the slack side of the drive is less than 45 degrees from horizontal.

Due to excessive pulsation, jerk, and lash necessary to pull the load, this extreme vibration is reflected back into the belt, literally jerking the life out of it. These foot-speeds per minute on bandwheel powers are sometimes as low as 432, and still lower speeds have been observed.

Within reason or limitations, the belt should be run as fast as possible, if the operator expects to get the maximum horsepower with a thinner and wider belt.

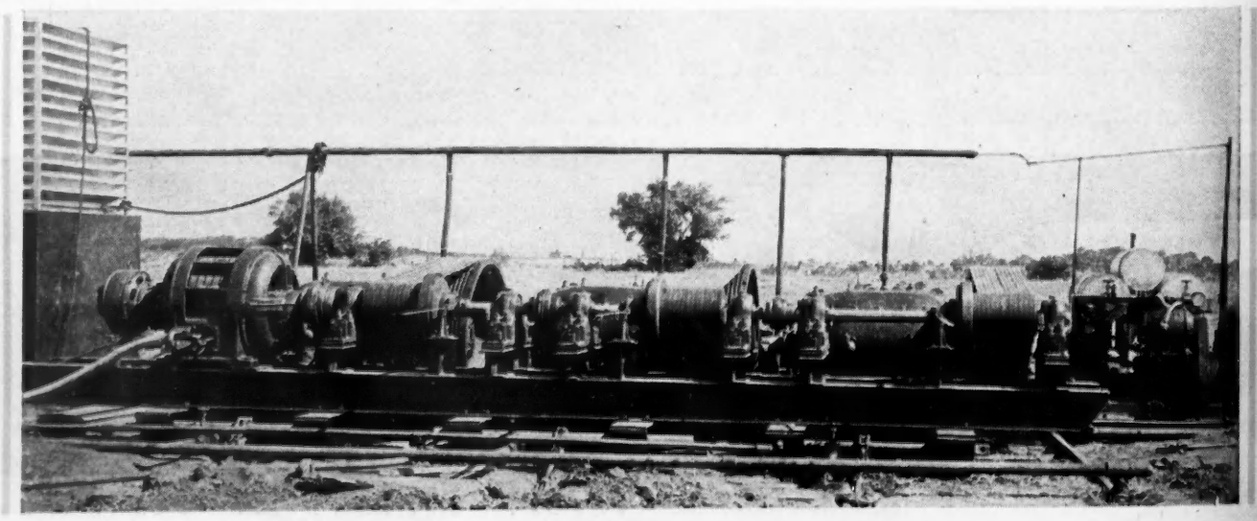
A belt should be run as loose as possible without slipping or failure to "track." Nothing can be gained by running a belt under an unnecessary strain.

Any operator is justified in the extra expense incurred in changing the diameter of the drive pulley where a belt has failed because of the small size of the pulley. Increasing the face of one or both pulleys usually is justified, where it will be possible to use a wider and thinner belt, and where previous experience proved that a thicker belt "bootlegged" in pulling the full load.

The best clamp available for each belt type should be used. Several types of clamps have been used satisfactorily, but it is an easy matter today to find belt installations with the wrong type of clamps. Some of the extreme "pinch type" clamps should not be used with belts of certain types and thickness. Recently one installation was found with a clamp that did not give the belt a chance to survive more than two or three weeks of hard service. The belt sheared off at the base of the clamp, and reclamping was a common occurrence. With filler type clamps, the filler should be replaced when it starts wearing the belt at the clamps.

Where the bandwheel pulley has been highly crowned, a heavy strain is set up throughout the center portion of the belt. The consequent flexing invariably shortens the life of the belt. This trouble should be avoided in the original installation of the drive, since there is no necessity for such a condition.

Dust, sand and silt are contributing causes to many



V-belt drives are being used in heavy drilling operations. This Diesel-electric outfit has three principal drives.

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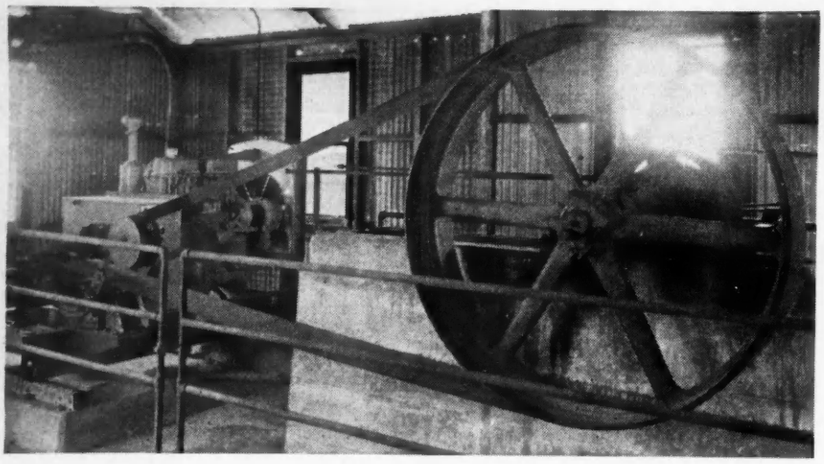

Belt drive used with a natural gas prime mover in a jack plant in California.

belt failures. In dry areas where the wind blows and dust storms occur, silt collects on the belt and often causes a form of dry rot. All belts should be protected from unnecessary exposure, whether the prevailing weather is dry, wet or dusty.

A discussion of belt dressing invariably leads to a difference of opinion, and usually to an outright argument. Since flat belting is made from a variety of materials, it is safest to use the dressing recommended by the manufacturer. Leather belting, impregnated stitched cotton fabric belting, solid woven hair belting, solid woven cotton belting, balata belting, and rubber belting are the accepted types in oil field work.

Mineral oil, paraffin, stick dressing and all questionable materials should not be used for belt dressing. Oil quickly ruins a rubber belt and should not be used in any form. Various sticky dressings gum up the pulley faces, and where the pulley faces are not cleaned often, patches of the inner ply of the belt actually pull off from constant contact with the sticky lumps of dressing.

Where the proper belt dressing is not available, a small amount of castor oil on belts (other than leather) may be used, but only when a dressing becomes necessary. Neatsfoot oil makes a satisfactory dressing for leather belts, but it should be applied on the outside of the belt.

Pumpers, and even foremen, in a few districts still attempt to condition a rubber belt by the application of crude mineral oil, as had been done with leather belts. The theory is based on the belief that oil placed on the outside of the belt gradually works itself through and conditions the belt. Oil is perhaps the worst dressing that could be used on a rubber belt.

Oil soaking through accident often damages rubber belting. Despite the care a pumper may exercise, oil may be thrown on the belt. This causes softening of the belt fabric and rotting of the friction between the plies. Prompt removal of the oil with gasoline usually reduces potential damage of the oil spot. There is only a short service life in an oil-soaked rubber belt.

A belt properly selected for the work to be performed, and a correctly engineered and constructed drive will do much to eliminate the necessity for frequent use of belt dressings. Large pulley diameters and faces will not only give improved mechanical operation, but will reduce the necessity for belt dressing.

Operation of V-Belts

The V-belt has demonstrated its ability to give satisfactory service under a variety of conditions. Principal operating abuses are failure to maintain proper belt tension, failure to keep belts clean, operation in excessive heat, misalignment of pulleys and shafts, overloading, and use of wrong belt size.

Proper belt tension simply involves keeping the excess slack out of the belts and usually can be accomplished by sliding the motor or engine on its base in a manner provided in the drive design. This is very important to the life of a set of belts. There is little danger of running belts too tight. It is not uncommon to find V-belt installations that ground off the sheaves from slipping and scuffing. Over-heated bearings often will cool down when the slack is taken out of the drive.

It is not unusual for the man in charge of lease or field equipment to neglect drives that continue to pull units. Many of these men have not kept abreast of operating conditions and demands, and permit belts to operate without enough tension to prevent them from turning over in the grooves. This reverses the stresses and causes rapid destruction of the belts.

When V-belts are run too loose, the motor pulley spins inside the belts and soon burns them up. This burned area usually coincides with the amount of belt in contact with the small pulley, in extreme cases where the driven equipment stalls. In less extreme cases, the slippage may permit the inefficient operation of the unit, or the belts may turn over in the grooves.

It is impossible to maintain proper tension where the belts are poorly matched. Where three or four belts in a 12-belt installation are "out of balance" with the remaining eight or nine belts, unnecessary strain is thrown on the eight or nine and unnecessary wear thrown on the two or three. It is not a good policy to use new belts with used belts, since it usually is possible to match an entire used set of belts through adjustments in either the belt arrangement or the drive. A matched set of belts will give good service and each belt will take its full share of the load, although the slack side shows a considerable sag variation. With such a set of belts, the apparent length difference when new will tend to disappear after the drive has been taken up and adjusted a few times.

Failure to keep V-belts clean has shortened the service life of many expensive installations. Being made largely of rubber, the V-belt must be protected from oil and grease. Oil soaking into belts is fatal to the conventional type, although a special "oil proof" type gives improved service under such conditions. The operator should take no chances with oil under any condition. A leaky bearing, or a spattering flywheel can easily throw enough oil to ruin a set of belts. A gasoline-soaked cloth should be used to clean both the belts and pulleys when they become spattered with oil or grease.

Rapid abrasion should be expected where a V-belt is run in a dusty or sandy location, or where sand

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storms are encountered. Frequently in such cases the belt simply takes up in its outer plies the fine grains of abrasive matter and acts as a belt sander to wear away the grooves of the pulleys, rather than to destroy the more yielding materials in the belt. The damaged pulley eventually "gets even" by wearing out the belts and subsequent belts that may be installed.

Operation of V-belts in excessive heat causes rapid wear. In a large pump station using a V-belt drive, the open belt assembly was ordered completely closed by the safety inspector. With only corrugated iron available for housing the drive, a tight cover extending across the drive and reaching to the floor on all sides was made. Only a small trap door was left for inspection. Soon after the cover was bolted into place the engineer detected the odor of hot insulation and hastily checked all electrical connections. His investigation was stopped by a puff of acrid smoke around the edge of the trap door.

A quick check-up revealed that the belts were almost ruined. Investigation after the mess had been cleaned up and the drive renewed proved there had been no slippage to create excessive friction and consequent heating of the belts. The belt and pulleys began to heat again soon after the cover was replaced, and a check on the driven pulley after shutting down and removing the housing showed a temperature range in the metal of the rim from 135° F. in the outer grooves to 175° F. at the center. The temperature causing the original trouble could only be guessed.

The guard was remodeled by cutting away the lower eight inches of shielding metal all around, and replacing the air-tight top or cover section with expanded metal. With radiation thus provided, the belts delivered the expected service. This abuse of V-belts indicated that the damaging heat was generated by the flexing of the belts, with reduced radiation making the heat possible. Surrounding air temperatures in excess of 135° F. cause an appreciable loss in belt life. Tight-fitting guards or other obstructions should be avoided.

V-belt drives frequently are run out of line. This may be the fault of the pulley shaft or the pulleys, or both. If this factor should be greater than the bottom width of the belt used over the diametral distance between pulleys, there will be excessive abrading of the sidewalls of the belt against the inclined sides of the groove when entering both pulleys. When such a drive is not kept tight, the belts will attempt to climb, and in doing so will tear or cut out the bottom plies of fabric. Belts will take care of moderate misalignment.

Where belts on a multiple drive break frequently and these breakdowns are distributed fairly regularly across the entire spread of the pulleys, it is probable that the drive is overloaded. The remedy is to install heavier belts with the proper pulleys to carry them, or to add a section to driver and driven pulleys so that additional belts may be run to divide the load.

Where the breakage on a multiple installation is localized and failures appear in one or two grooves, it is indicative of a faulty groove on either driver or driven pulley. This condition abrades the belt or causes it to carry more than its share of the load, for short intervals. Another cause of localized belt trouble can be traced to an oil leak affecting only a small area.

Where belt breakage occurs often at either edge of the pulley, it is possible the drive is misaligned. Only a slight variation in a pulley from 15 to 20 inches wide is required to affect belt tension.

Many oil field V-belt drives are between fixed centers, as in the case of an internal combustion engine that drives a heavy oil or water pump. Belts have been known to drive throughout their useful life without adjustment under such conditions, where they were of proper size, were not transmitting more than their computed horsepower, the center distance of the pulleys was adequate, and the original mounting was engineered to put the correct initial tension in the belts. Many V-belt installations of this type have had a service life of more than 50,000 hours under load.

In handling intermittent and pulsating loads under unusual conditions, a take-up of some type may be required. Since it is easier to place an idler pulley on the outside of the belts, such a condition is frequently found. The idler on the outside of the belts bends the belts inward, such a position tending to place the narrower side of the trapezoidal belt form in tension. This helps to break down the cushion of softer and reinforced rubber in this space, which normally absorbs the compression stress from being bent around within the confines of the pulley. Instances have been noted where a greater wrap of a small pulley was sought by moving the idler until a wrap of as much as 270° was obtained, after which the belt was forced almost instantly to sustain a bend of as much as 105° in the opposite direction in passing around the idler.

An improved operation and greatly increased belt life may be secured by locating the idler within the belts. The take-up is on the slack side of the belts, but they are bent only a small amount from a straight line. Use of a properly designed idler pulley enables the operator to throw off or on belts without damage. If a drive is designed to carry an idler, the initial slack provided should permit shifting the belts from one groove to another by hand when the idler pulley is in the "off" position. Idlers are not required on the average V-belt installation.

Where the operator does not understand his belt problem, he should ask a belt manufacturer for assistance. Use of the wrong size belt may cause unnecessary trouble and lead to a heavy operating expense.

Belt dressing should not be used on V-belts. A correctly designed installation will not slip when kept clean.

In the use of both flat belting and V-belts, common sense on the part of the operator is as much a requirement as quality on the part of the belt manufacturer.

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SURVEYING THE ECONOMIC FIELD OF

Repressuring Oil Sands

By JOE S. LEVINE,
Department of Petroleum and
Natural Gas Engineering,
Pennsylvania State College

PART TWO

EXTENSIVE investigation has been conducted on the effect of gases dissolved in oil. The results of some of these investigations will be discussed briefly in relation to the change in physical and chemical properties of the oil when air or natural gas is dissolved in it.

It is logical to assume that the change in property of the oil will bear a rough linear relationship to the amount of gases which have been dissolved in the oil, that is, the greater the solubility of the gas, the greater will be the change in the oil. According to Henry's Law, the concentration of dissolved gas is a function of the pressure of the gas above the system. Results of investigations by Beecher and Parkhurst[7] on the relative solubility of air and natural gas in crude oil have shown that at any given pressure the solubility of natural gas in oil is from four to six times as great as that of air, depending on the type of natural gas used (See figure 1). A natural gas composed of about 82 percent methane, 6 percent ethane, and 6 percent CO_2 had a solubility of about 78 cubic feet of gas per barrel of oil at a pressure of 500 pounds per square inch. At this same pressure air had a solubility of only 21 cubic feet per barrel of oil. Natural gas which was composed of 52 percent methane and 39 percent ethane showed an even greater solubility of 95 cubic feet per barrel of oil at the pressure mentioned. While the figures are interesting from a comparative point of view, they do not wholly represent underground conditions since they are values obtained when the gas is in equilibrium with the oil as a result of constant agitation of gas in contact with oil. In repressuring, these equilibrium conditions do not exist since the rate of diffusion of both natural gas and air in oil is slow and there is little agitation of the interface to cause intimate mixing. On the other hand it is not uncommon to find rock pressures of as as much as 100 pounds per square inch or greater in many fields; at these pressures, the volume of dissolved gases would be greatly increased.

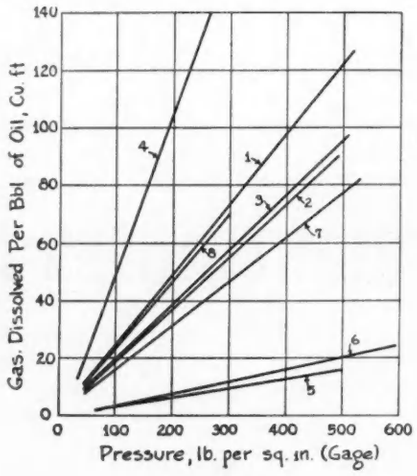

FIGURE 1

Solubility of Various Gases in Crude Oil Under Pressure at 70° F.

Curve 1. Natural gas
No. 1 in Oklahoma crude oil....35.4 A.P.I.
Curve 2. Natural gas
No. 2 in Oklahoma crude oil....35.4 A.P.I.
Curve 3. Natural gas
No. 1 in Oklahoma crude oil....30.2 A.P.I.
Curve 4 Carbon dioxide
in Oklahoma crude oil.....30.2 A.P.I.
Curve 5. Hydrogen in
Oklahoma crude oil.....30.2 A.P.I.
Curve 6. Air in Oklahoma
crude oil .....30.2 A.P.I.
Curve 7. Natural gas
No. 2 in Oklahoma crude oil....30.2 A.P.I.
Curve 8. Natural gas
No. 2 in Bradford crude oil.....44.3 A.P.I.

ANALYSIS OF GASES

	No. 1 Percent	No. 2 Percent
CH_4	52.0	82.5
C_2H_6	39.0	5.5
CO_2	1.2	5.9
O_2	0.4	0.3
Residue	7.4	5.8

From "Transactions A.I.M.E. (1927), Petroleum Development and Technology in 1926."

The extent of solubility of a dry natural gas in crude oil shows that many factors are involved. The following conclusions have been drawn as a result of investigations by Lacey, Sage, and Kircher[8]: "(1) The assumption that a simple dissolving process occurs when a gas is brought to equilibrium with a liquid in complex hydrocarbon systems is valid only when the system is far enough below the critical temperature of the solvent and the critical pressure of the mixture that there is no appreciable transfer of the component of the original liquid into the gas phase. (2) The solubility of natural gas in a given crude oil at 100°F. is almost directly proportional to the saturation pressure. (3) The ratio of solubility to equilibrium pressure has in general a roughly linear relation to the specific gravity of the crude oil. (4) Change in gas composition has a marked effect on the solubility as shown by the large difference in solubility of methane and natural gas in the same crude. (5) Change in volume of the oil for any definite amount of a given gas dissolved is almost the same for all crudes. However, the pressure at which this solubility would be obtained would

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vary. (6) The apparent specific gravity of a given natural gas dissolved in crude oil at 100°F. is nearly independent of the pressure and of the solvent."

Applied to repressuring, the extent of solubility of either natural gas or air in the oil would vary with the pressure, natural gas being much more soluble than air at any given pressure. This would mean that if natural gas were used, more of it would be required to build up the pressure than if air alone were used. At the same time, this would indicate that natural gas is less efficient as a propulsive force in actually pushing the oil out of the sand.

The viscosity, surface tension, and specific gravity are changed considerably when natural gas or air are dissolved in the oil. If other conditions are constant, then the decrease of viscosity depends on the amount of gas dissolved in the oil (See Figures 2 and 3). In the case of natural gas, the viscosity of the oil has been found to decrease from 8 percent to over 50 percent over a pressure range of 100 to 500 pounds per square inch, depending partially on the chemical composition of the natural gas.[7] Experiments conducted with air have yielded inconsistent results in regard to change in viscosity. In some cases it has been found that the viscosity was decreased while in others it was increased. For this reason no generalizations may be made as to whether air will increase or decrease the viscosity.

FIGURE 3

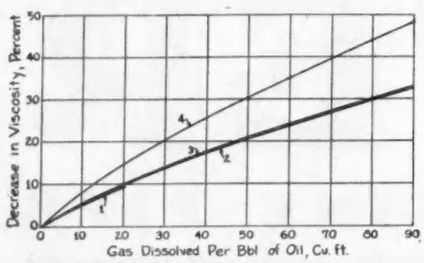
Diagram Showing Relation Between Volume of Dissolved Gas and Decrease in Viscosity of Crude Oil (30.2 A.P.I. oil; Temperature 70° F.)

Curve 1. Hydrogen
Curve 2. Carbon dioxide
Curve 3. Natural gas No. 2
Curve 4. Natural gas No. 1

ANALYSIS OF GASES

	No. 1 Percent	No. 2 Percent
CH_4	52.0	82.5
C_2H_6	39.0	5.5
CO_2	1.2	5.9
O_2	0.4	0.3
Residue	7.4	5.8

From "Transactions A.I.M.E. (1927), Petroleum Development and Technology in 1926."



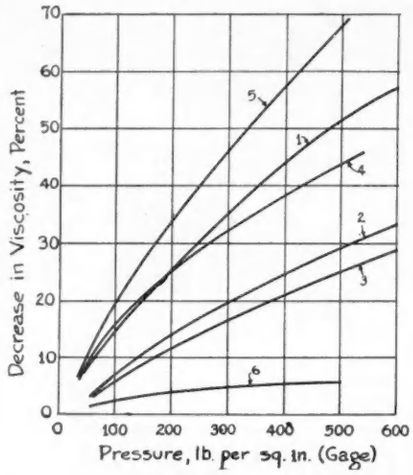


FIGURE 2

Diagram Showing Decrease in Viscosity of Crude Oils Containing Gases Dissolved Under Pressure.

Curve 1. Natural gas No. 1 in Oklahoma crude oil....30.2 A.P.I.
Curve 2. Natural gas No. 2 in Oklahoma crude oil....30.2 A.P.I.
Curve 3. Natural gas No. 2 in Oklahoma crude oil....35.4 A.P.I.
Curve 4. Natural gas No. 1 in Oklahoma crude oil....35.4 A.P.I.
Curve 5. Carbon dioxide in Oklahoma crude oil.....30.2 A.P.I.
Curve 6. Hydrogen in Oklahoma crude oil.....30.2 A.P.I.

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From "Transactions A.I.M.E. (1927), Petroleum Development and Technology in 1926."

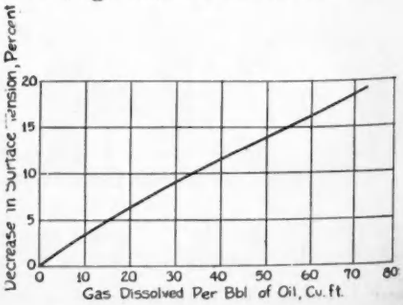
The increase in viscosity is probably due to the oxidation of the oil when in contact with the air. The oxidizing effect of air will be discussed under chemical effects.

There is little information available in relation to the effect of air on surface tension and specific gravity of oil. Though there is no actual basis for making this conclusion, it is logical to assume that as in the case of viscosity, the air may increase or decrease the surface tension and specific gravity of the oil, depending on whether any oxidation takes place. In one case where oil was oxidized by air, it was found that the surface tension remained about the same.[9] If no oxidation took place, the specific gravity and surface tension would probably both be decreased to some extent. This has been found true when natural gas is dissolved in oil.[7] In an Oklahoma crude it was found that when 70 cubic feet of gas were dissolved in a barrel of oil the surface tension was decreased about 18 percent, the decrease being almost a linear function of the volume of gas dissolved (See Figure 4). Likewise the specific gravity has been found to decrease when natural gas is dissolved in the oil, especially if the higher hydrocarbons have not been extracted from the gas. A straight line relationship has been found to exist when the A.P.I. gravity is plotted against the pressure of the natural gas dissolved in the oil.[11]

As gas is depleted from an oil field, the actual formation volume or total volume of oil which was originally in the sand and was saturated with gas decreases. Conversely, when natural gas is pumped back into the oil, volume changes occur.[12] The extent of such changes are dependent on the particular oils in the sand. Experiments with a Seminole oil reveal that the percentage increase in volume is over 5 percent at a pressure of 600 pounds per square inch. At the same pressure, however, a Bartlesville oil showed a .5 percent change in volume.[11]

Now that the relative effects of natural gas and air on viscosity, surface tension, and specific gravity of oil have been discussed, let us consider the relation of the factors to recovery in a repressuring project. Viscosity is probably the most important physical quality of the oil affecting its recovery. In any given sand, the pressure required to force the oil through the capillaries is directly proportional to the viscosity of the oil while the quantity of oil that will flow through the capillaries under a definite pressure is inversely proportional to its viscosity. Thus by reducing the viscosity of the oil 50 percent, twice as much oil would flow at the same pressure or the same amount would flow at one-half the pressure, other factors being equal. Since natural gas is so much more effective than air in lowering the viscosity of the oil, it is obvious that in repressuring the sand, a greater amount of recovery can be expected and lower pressures can be used if natural gas is the pressure medium rather than air.

A large amount of the oil which



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remains in the sand is held there by capillarity. As the gas escapes from the oil its surface tension is increased and, at the same time, the capillary force which is a measure of surface tension. Thus in the partially depleted field, the capillary forces holding the oil are even greater than in the early life of the field, and unless these forces are materially reduced it is probable that the oil cannot be recovered. By means of pressure maintenance, this capillary force is kept at a minimum during the process of extracting oil. Likewise by means of pressure restoration, the surface tension of the oil is decreased. Again natural gas is superior to air as an agent for decreasing the surface tension of the oil more effectively.

Main Objection

The principal objection to the use of air as a repressuring medium lies in the fact that it is apt to react chemically with the oil, resulting in the formation of undesirable constituents in the oil as well as an increase in viscosity as already mentioned. An extensive study has been made on the laboratory oxidation of crude oils.[9] Three types of crude were subjected to oxidation for 182 days at 110°F. and constant pressure: paraffin, intermediate, and naphthene base oils. It was found that the paraffin base oil was most resistant to oxidation, and the naphthene base oil least resistant. In the intermediate and naphthene base oils there was considerable asphaltic materials and insoluble gums formed upon oxidation. Carbon dioxide was formed with all the oils, the amount of carbon dioxide dependent on the amount of oxidation. Organic acids were also formed. It was found that the interfacial tension of oil and water decrease after oxidation. Oxidized intermediate and naphthene base oils formed emulsions easily when water was added. Thus the many disadvantages in using a pressure medium which would cause oxidation to the oil are obvious. Where the pore spaces in the sand are small, the formation of gums and asphaltic material is apt to result in considerable plugging of the sand.

The corrosion of equipment is much greater when air is used, particularly if the field is producing much water. This not only adds to the cost of repressuring, but it necessitates frequent shutting down in order to repair or replace the corroded parts.

In only one respect is air superior to natural gas: in its propulsive efficiency relative to natural gas.[13] Using nitrogen, which acts similarly to air, it was found that up to a certain saturation pressure, the nitrogen was more efficient as a propulsive agent above this pressure the natural gas was more efficient. However, the results indicate that the better propulsive effect of air is not great enough to warrant its use in place of natural gas when natural gas is available.

When Air Is Necessary

It is likely that in the late life of the field the natural gas has been depleted entirely. In such cases the use of air for repressuring becomes a necessity unless sufficient quantities of gas can be piped in at an economical price. As is often the case, however, the field may still be producing a considerable amount of gas but not enough for repressuring operations. Here the use of air offers several problems chief of which are: (1) The return air-gas mixture decreases in fuel value, and (2) explosive mixtures may result. The former is especially objectionable if the natural gas from the field is sold for fuel since it would in time become worthless for fuel as it became diluted with air. Similarly if the gas was used to run equipment in the field, dilution with air would render it unfit and fuel would have to be purchased at an additional expense. The posstability of forming explosive mixtures is hazardous because it endangers both life and property. Often compressors, headers, pipe lines, or fittings are blown out as the result of an explosion where air and gas are used. The limits of explosibility for natural gas have been found to vary from 3.5 percent to 9.5 percent of natural gas by volume.[2] Thus where air-gas mixtures are used, constant caution must be exercised to prevent explosions.

Yields Increased

In the majority of cases where repressuring has been applied the results have been favorable. Ultimate yields have been increased from 20 percent to as much as 60 percent more than they would have been had not repressuring been used. The rate of production decline has been materially reduced with the result that the return on the investment is continued over a longer period of time. Pressure maintenance is the only known method of successfully retarding the encroachment of edge-water which, if not checked, may result in the loss of much of the oil that could otherwise be recovered. In the flush stages of production when natural gas is the most plentiful, repressuring is a method of storing the excess gas so that it may be used when the gas production would normally decrease. The maintenance of back pressure on the producing wells allows a more thorough and uniform drainage of the oil sands.

It is reasonable to believe that the rapid advancement made in the field of repressuring will be overshadowed by future developments. Since the known oil reserves are being rapidly developed an dproduced the use of processes such as repressuring for recovering a greater amount of this oil will warrant careful consideration.

Acknowledgments

The writer wishes to thank Dr. A. W. Gauger of The Pennsylvania State College for permission to publish this paper and Messrs. Beecher and Parkhurst for the use of the curves which they obtained.

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What Does the Future Hold for Rodessa?

By BRAD MILLS, Associate Editor

RODESSA, first major producing field in the lower Glen Rose (Trinity), remains one of the most interesting areas in the United States. Originally confined to northwest Louisiana, production soon jumped into Texas and created political and allowable problems. Recently production was extended northward into Arkansas to make the field one of the few tri-state structures in the country. Structural interpretations differ sharply, but whether one field or four, the total oil accumulation along the principal fault line represents a major producing area in every sense of the word.

TWO years of intensive development have unraveled many of the early mysteries connected with the Rodessa field, but faulting and gaps between production along a 30-mile strip add a complexity that puzzles geologists and operators. At this stage of development it is not believed that all gaps between present production will be filled in, but other extensions may offset these barren spots. The extension into Arkansas came after previous efforts to push the field northward had failed. The "skirting around" movement northward from the center of the field forced production into Miller County, Arkansas, in the form of a nose off the main structure.

Rodessa remains an important field because of future development required to complete field operations, and the extended fight that must ensue to obtain oil left in the reservoir. In addition to inside drilling operations, a large amount of drilling will be required to prove and define flank and extension blocks that ultimately may sharply alter current estimates on oil reserves.

Although Rodessa was strictly a flowing field during the first year of development, the pressure drop in intensely drilled sectors has served advance notice that weak wells soon will need help to produce oil. Rapid withdrawals reduced the reservoir pressure on the Louisiana side, while the gas waste was a damaging factor in a production program that was barely checked in time to prevent a more widespread installation of artificial lifts. The conservation order of 1936 proved effective in eliminating excessive gas waste, and in forcing production practices that gave a more uniform formation pressure.

The entire area may be classed as one field, although efforts have been made to place complex interpretations on each extension. The Rodessa proper, Lodi and Jefferson pools lie along a common fault line, but it may be correct at this stage of development to call the three areas separate "highs" along one general uplift. The depth, gravity of the oil, and formations are similar enough to give the conclusion that all oil along the general trend owes its accumulation to a common condition. Barren areas between pools are not unusual where cross faulting affects a district producing because of one long, major fault.

Extensive Operations

Development has been most intense on the Louisiana side, but well density on the Texas side almost equals that in Louisiana. There are now 410 producing wells in Louisiana, with a daily allowable of 50,000 barrels. On the Texas side and in the main field, 330 wells have been completed. Daily production in this area is about 36,000 barrels. The productive area on the Louisiana side totals 7550 acres, while on the Texas side the current developed area equals 5825 acres for the main field. The well density on both sides is about one well to 18 acres.

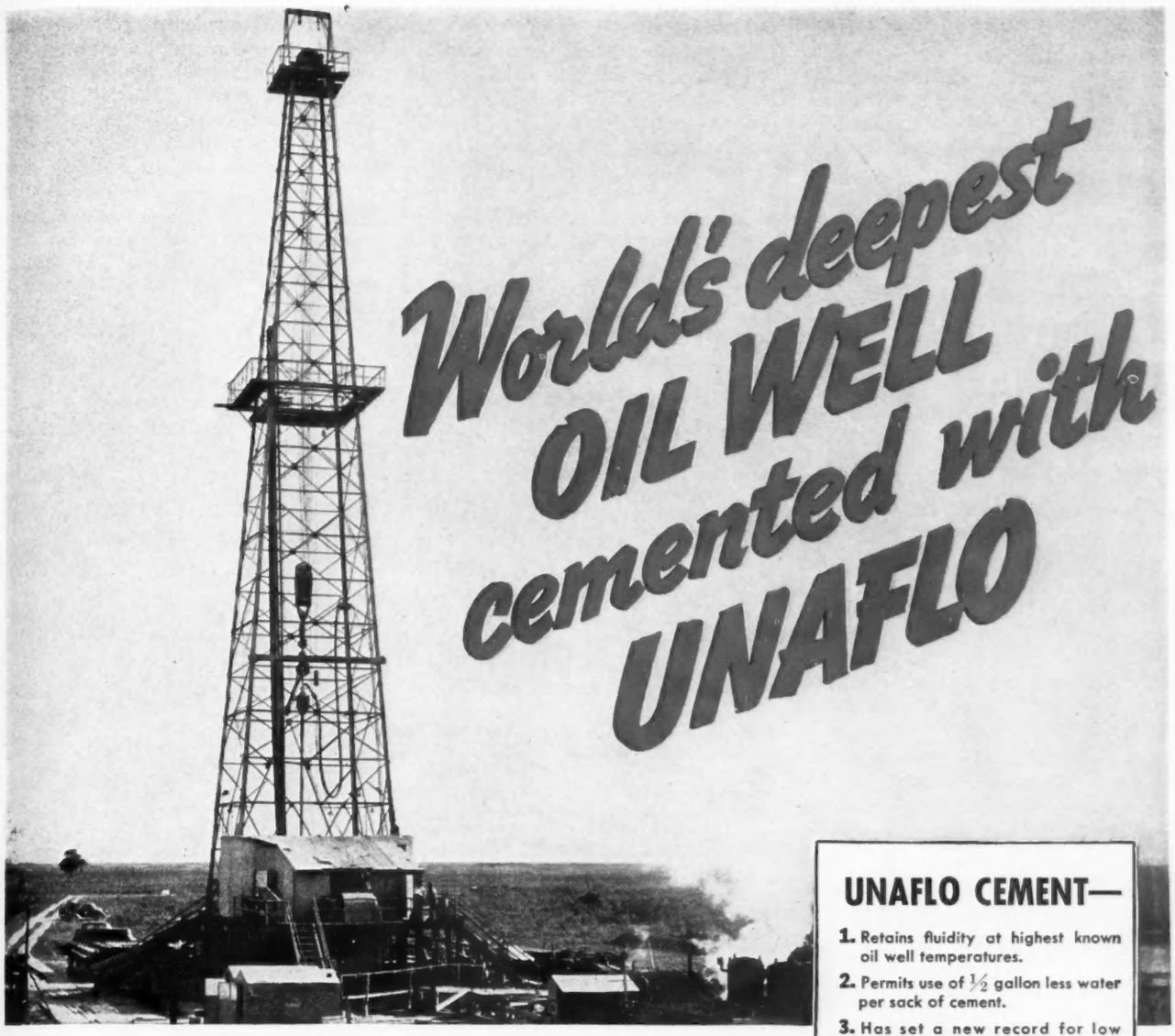
The Arkansas extension, the most recent addition to the field, has 15 producing wells and a daily production of 5000 barrels. These wells have been spread over only a few hundred acres, but it is known that a much greater area will prove productive. The Arkansas well density will depend largely on the nature of the first 40 completions and economic conditions.

In the Lodi extension, Jefferson County, Texas, 11 wells have been completed and daily production is about 1400 barrels. These wells are spread over an area of less than 700 acres, but present drilling wells probably will double the present productive acreage. The Jefferson extension, also in Jefferson County, has four producing oil wells and a daily production of about 600 barrels. Little is known of the potentialities of this nose or extension, but it apparently is a pocket or "high" along the general fault line. Considerable drilling must be done along a 10-mile belt to define the producing limits of these extension areas.

Active drilling tests and locations in all parts of the field total 70, the division between the three states being almost evenly divided. Active operations on the Louisiana side total 24; in Texas, 25; and in Arkansas, 21. The rush and transfer of tools to Arkansas was the most recent spectacular move in the field.

The extension from month to month has given the field an extreme length of 30 miles and a productive area of almost 15,000 acres. The ultimate productive area probably will exceed 20,000 acres, and a 25,000-acre ultimate is possible. A daily production of almost 100,000 barrels is exceeded by a few fields in the United States. Rodessa proper ultimately will have a much larger productive area than the 13,400 acres already developed.

The Arkansas extension is perhaps the biggest question mark now confronting operators. The producing zone is from 15 to 20 feet thick, and this extension appears to be a big nose of questionable definition. The



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presence of a syncline between the original north edge of the main field and the Arkansas extension probably delayed the discovery, since the thinning of the oil zone and appearance of water more than two miles south of the state line stopped drilling toward the north.

Arkansas production is from the Mitchell zone, which is a portion of the Gloyd in Louisiana. This formation is above the Young, which probably carries water in Arkansas. The extension into Arkansas did not take the expected turn, since it originally was believed that the trend would be along the fault line to the northeast. The extension was an apparent widening of the field. The possibility of an extension into Arkansas along the main fault line still remains.

The Lodi and Jefferson, Texas, extensions have added an interesting turn to developments. While not entirely unexpected, these additions along a general line have opened a large area to development. The main field apparently closes against the fault about eight miles southwest of the Louisiana line. A barren spot is indicated between this closure and the Lodi extension, and another barren area may be developed between Lodi and the Jefferson extension. Completion of wells between these points support the theory that uninterrupted production is not likely.

In the main Rodessa field, completions are averaging about 10 oil producers per month. Wells are brought in with more difficulty than was experienced during the first 18 months of operations. A good completion will produce from 20 to 40 barrels per hour through a ¼- to ⅝-inch choke, or about half the amount averaged by completions of 18 months ago. The weak wells start flowing only when helped, but the stronger ones flow satisfactorily at first.

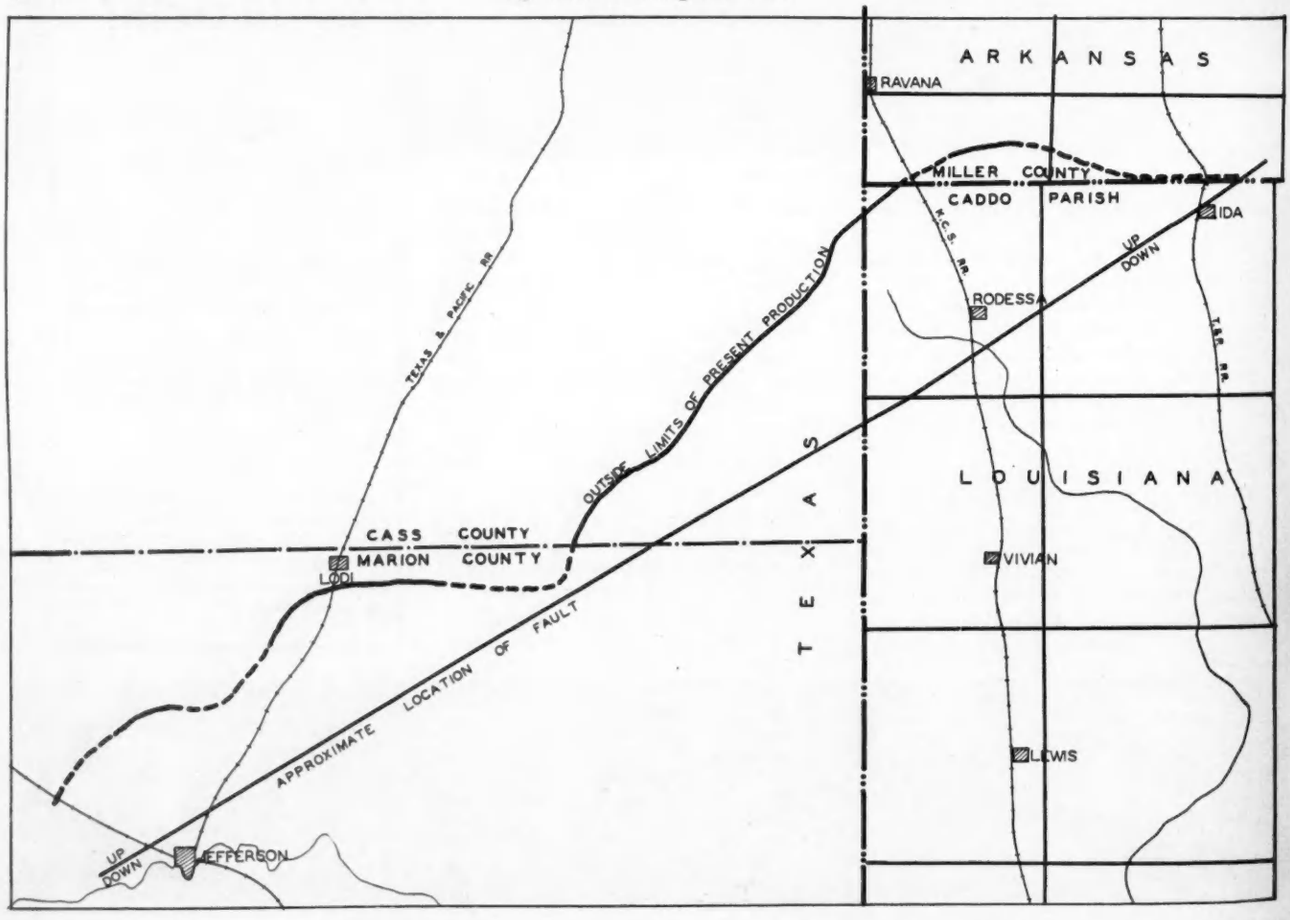
Lower Gas-Oil Ratio

Greatest progress has been made in lowering the gas-oil ratio through reduction of gas waste. Gas conservation has reduced the gas waste to 7½ percent of the waste recorded during a part of 1936. This figure applies only to the Louisiana side of the field, where the daily gas waste for some time was more than 600,000,000 cubic feet daily. The average gas-oil ratio for the 410 wells in Louisiana is less than 2000:1. Only 16 percent as much gas is now being made with the oil as was produced when both oil and "distillate" wells were active. Many wells produce with a gas-oil ratio less than 600:1.

The townlot area at Rodessa suffered most from gas waste and overproduction. The bottom-hole pressure in this area reached an extreme low of 900 pounds on January 1, 1937. This pressure had been increased to 1400 pounds on May 1 by Order No. 7, which placed the field on a basis of 50 percent acreage and 50 percent bottom-hole pressure. This order also limited the high gas-oil ratio wells to their allowable gas. The order originated late in 1936, but actually went in effect January 1 of this year.

The field average bottom-hole pressures for the Dees-Young zones was 2314 pounds on the Louisiana side in July, 1936. By January 1, 1937, it had dropped to 1886 pounds. The decline since that time has been much slower, and on September 1, 1937, it was 1680 pounds. The bottom-hole pressure weighted average dropped an average of .97 pound during August, as reflected by 83 key wells in the Dees-Young zones. The bottom-hole pressure in various parts of the field ranges from 500 pounds to 2100 pounds, the highest

General trend of production along the major fault line at Rodessa. The Arkansas, Lodi and Jefferson extensions are questionable factors but they probably will become important additions to the main pool. The area ultimately will produce over a much larger acreage than is now productive.



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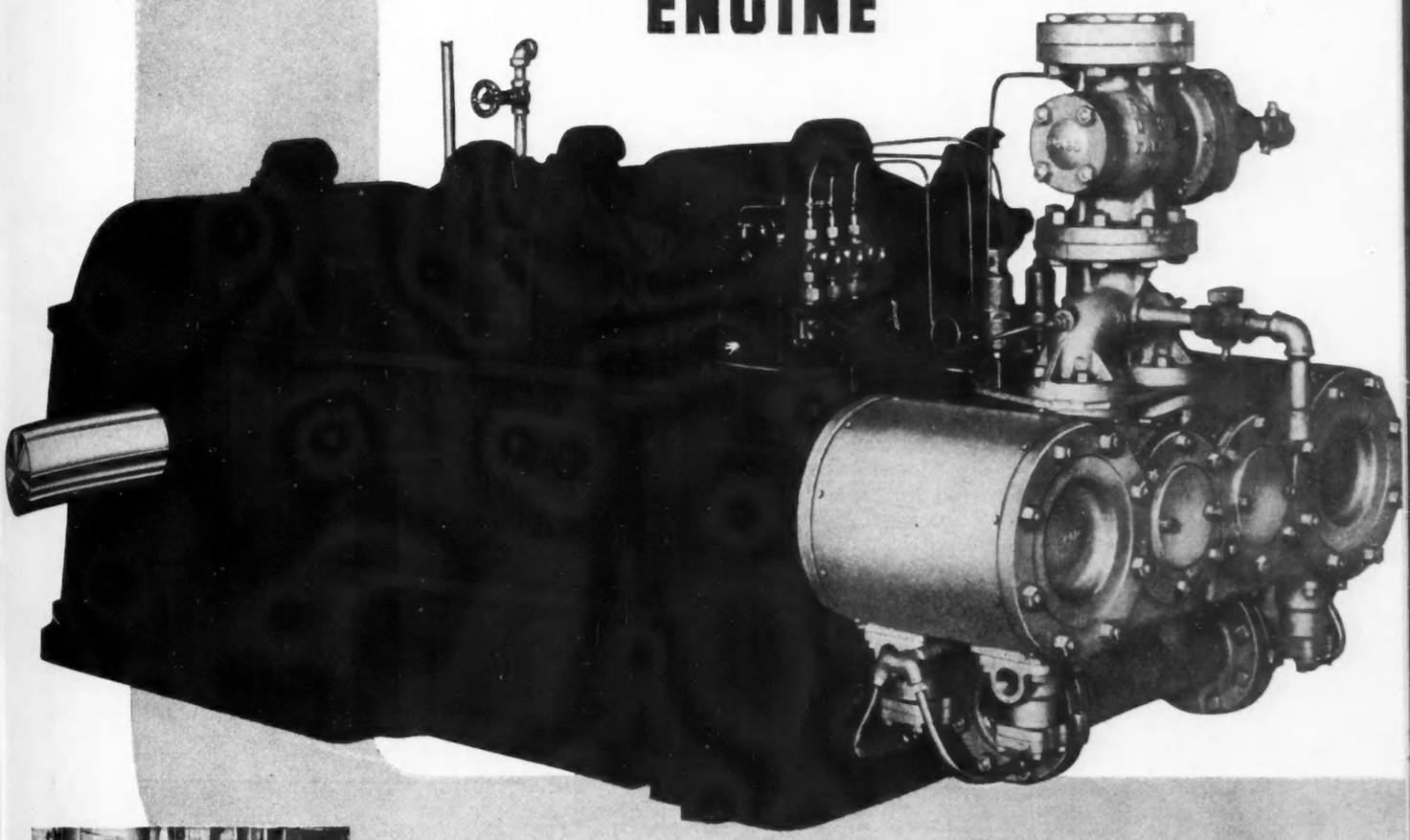

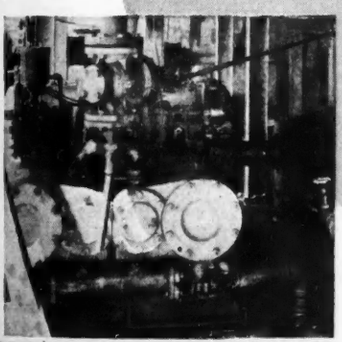

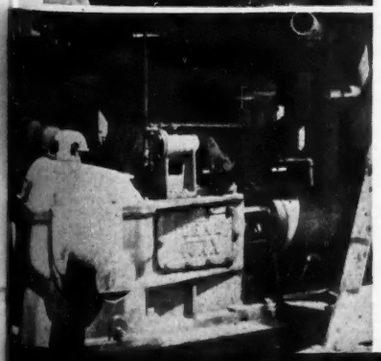

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being along the gas-oil contact near the Texas line.

The gas-oil ratio on the Texas side of the main pool has been well controlled since production was extended into that state. The weighted field bottom-hole pressure in this area is about 2000 pounds, reflecting the early care exercised in producing the average well.

Wells at Rodessa may be produced satisfactorily with several forms of artificial lift. About 18 beam pumps have been installed, and as a rule these rod-and-tubing installations are satisfactory. Gas lift has been the favorite production method for weak wells, but generally the cost has been high where it was necessary to raise the gas to the correct pressure. Several companies are working on modified forms of gas lift, and petroleum engineers believe that an adaptation of this form of lift will prove satisfactory. Intermittent gas lifts have proved satisfactory where water was not a problem. A large number of weak wells will go on the pump and other lifts within a few months.

The Rodessa area has produced about 45,000,000 barrels of oil since its discovery in August, 1935. Production already has been greater than the ultimate recovery predicted by a group of conservative geologists and operators. Original estimates placed the ultimate recovery at 20,000 barrels per acre, but recent developments tend to indicate a lower recovery per acre. The recovery probably will be around 750 barrels per acre/foot where the porosity is good and the lime sections uniform. If 25,000 acres should prove productive and the recovery per acre averages 10,000 barrels, the ultimate recovery obviously would be 250,000,000 barrels. The area actually productive does not exceed 15,000 acres, but the ultimate productive acreage has been estimated at various totals between 20,000 acres and 30,000 acres. A total somewhere near the middle of this range seems to be a safe figure, but only the drill will tell the full story. The ultimate productive acreage for Rodessa proper will be between 14,000 and 18,000 acres.

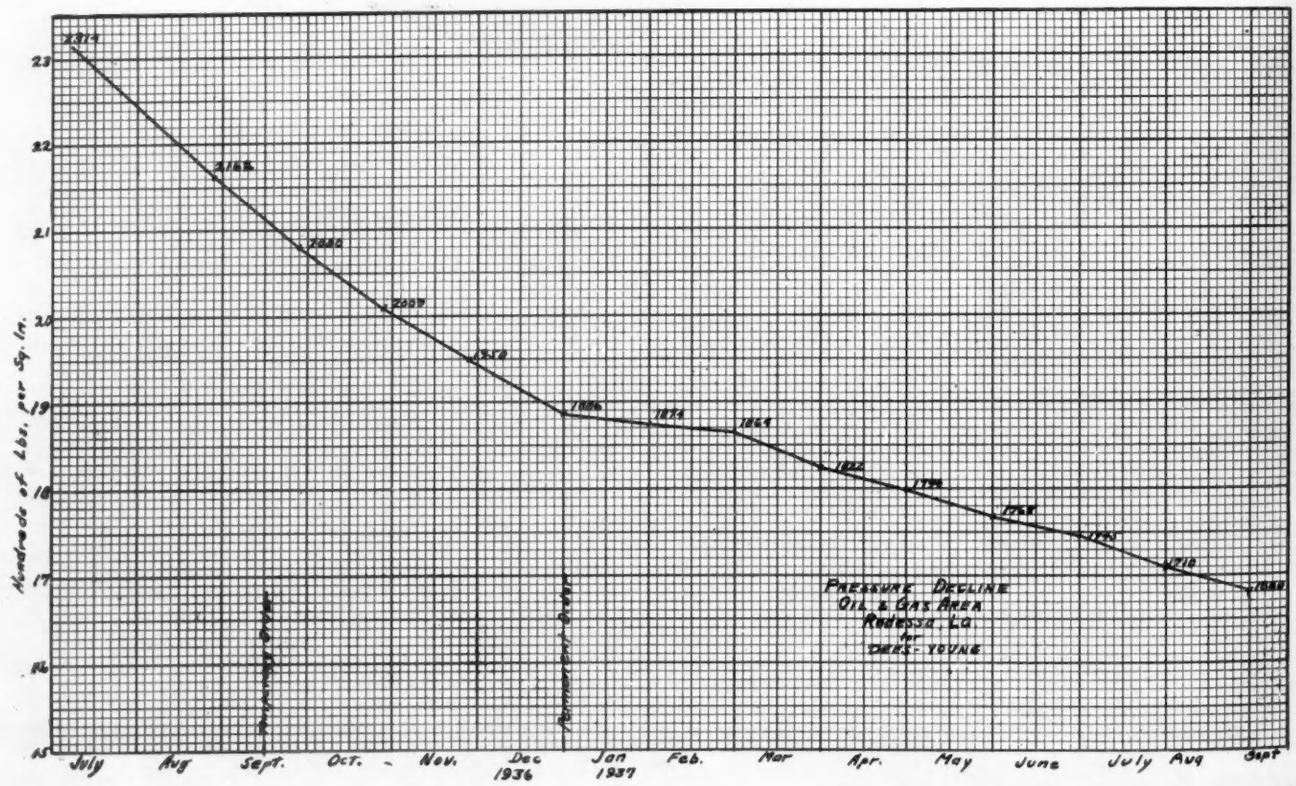
On the Texas side the formation is more spotted than in Louisiana. Acreage on the Texas side is far from proved, however, and production may take an unexpected turn. The Texas area of Rodessa proper is open to a thin extension along a large part of the north side, and considerable filling in will take place. The ultimate productive area may be more than 2500 acres, while the ultimate productive area near Jefferson may be almost as much.

The extension into Arkansas holds both economic and political significance. The decline in oil production in this state has been viewed with alarm for several years, and the discovery was welcomed by the state in general. The ultimate productive area probably will not exceed 4000 acres, but it may be considerably more or less. The ultimate recovery has been estimated at 25,000,000 barrels by operators who have checked several factors involved. A quick unfavorable turn might result in a drop in these estimates. This part of the field is very active, and completion of the bulk of wells now under way should go a long way toward determining its possibilities.

Salt water has not given as much trouble at Rodessa as would be expected in a field so heavily produced in spots. Of the 755 wells in all sections of the field, 166 are making salt water in varying quantities. Of this total, 132 are on the Louisiana side, 30 on the Texas side, three in Marion County, Texas, and one in the Arkansas extension. Almost 500 wells are making clean oil.

The average Rodessa well, if handled carefully, will flow naturally for a long time. Wells on artificial lift are confined to the low pressure areas and to one intensely developed sector. It is believed that the field will be classed as a flowing area until the weighted average bottom-hole pressure falls below 800 pounds, although artificial lifts will be in common use long before such an average is reached.

The producing formation at Rodessa responds readily to acid treatment. The first wells came in naturally without treatment, the porosity of the lime and bottom-hole pressure having given new producers the performance of wells flowing from sand. Acid treatment in the future will be a common practice in weak producing wells.



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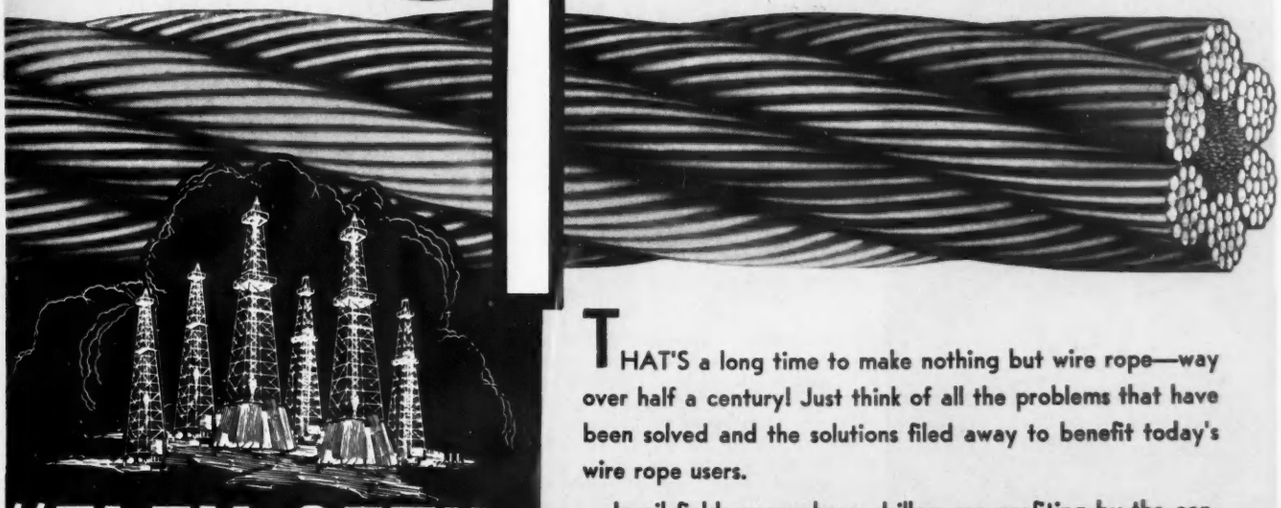

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THREE IMPORTANT CHANGES MADE AMONG EXECUTIVES OF SHELL PETROLEUM CORPORATION

H. T. CARPENTER, formerly of Oklahoma City, has been moved to Tulsa where he is the new chief scout of Ohio Oil Company. Carpenter has been an employe of Ohio for 20 years, starting in Findlay, Ohio, as a member of the map and drafting department.

SAMUEL A. GROGAN, chief geologist of Mexican Gulf Oil Company at Tampico, Mexico, is on a motor trip to the United States, accompanied by Mrs. Grogan. They are in Chicago, and will visit Pittsburgh and New York before returning to Mexico.

VICTOR E. LEDGER, of San Antonio, Texas, has accepted a position with Lago Petroleum Company at Aruba, Netherlands West Indies. From 1920 to 1936 he was transportation superintendent for Huasteca Petroleum Company at Tampico, Mexico, and for the past 20 months has been connected with the pipe line department of Mexican Gulf Oil Company.

Blank & Stoller

T. E. SWIGART

WAYNE F. BOWMAN, chief geologist for Tide Water Associated Oil Company, Houston, recently resigned to operate independently as consulting geologist with headquarters in Houston.

DAVID PROCTOR, in the legal department for Gulf Oil Corporation, Houston, has been transferred to Pittsburgh.

PAUL G. BENEDUM, president of Bentex Oil Corporation, Houston, has returned from a vacation in Colorado.

SWIGART GOES TO ST. LOUIS, GALLOWAY TO HOUSTON, AND ROARK HEADS TULSA OFFICE

EFFECTIVE September 20, several changes were made in the executive department of Shell Petroleum Corporation.

T. E. Swigart, who has been vice president in charge of operations in Texas, Louisiana, Arkansas and New Mexico, with headquarters in Houston, was transferred to St. Louis, where he will assist the president and general manager of the corporation.

A. J. Galloway, who has been in charge of Mid-Continent operations, with headquarters at Tulsa, will relieve Swigart in the Houston office.

Ralph Roark has taken over the duties of A. J. Galloway in the Tulsa office.

Swigart, born in California in 1895, is a graduate of Stanford University. His first work in the oil industry was as a laborer on a pipe line gang during summer months while going to school. He first joined Shell Petroleum Corporation in the summer of 1915. In 1919, he joined the United States Bureau of Mines. This work terminated in October, 1923, when he became consulting petroleum engineer for Attock Oil Company, Ltd., and Indo-Burma Petroleum Company, Ltd., in India and Burma. The following year he returned to Shell as chief production engineer and assistant general field superintendent of Shell Petroleum Company of California. In November, 1932, he became vice president of the company in charge of operations handled out of the Houston office.

Galloway began his oil career as a geologist in California in 1925. Three years later, he went to San Francisco as assistant in the president's office of Shell Oil Company. In September, 1930, Galloway was transferred to the manufacturing department, as assistant to the manager. He returned to the president's office in October, 1932. In February, 1934, he was transferred to Shell Petroleum Corporation, as assistant to the president, and moved to St. Louis. Effective March 1, 1936, he was moved to Tulsa as vice president of the Mid-Continent.

Roark has been with the company in the Tulsa office for a good many years.

W. J. WILSON has succeeded the late J. Kirby Warren as head of the land department for Ohio Oil Company at Tulsa. Wilson, who was first employed by Transcontinental Oil Company at Pittsburgh, Pennsylvania, in 1919, came to Tulsa in 1925 when the offices were moved there. He was assistant secretary of Marathon Oil Company (now Ohio) before his recent appointment.

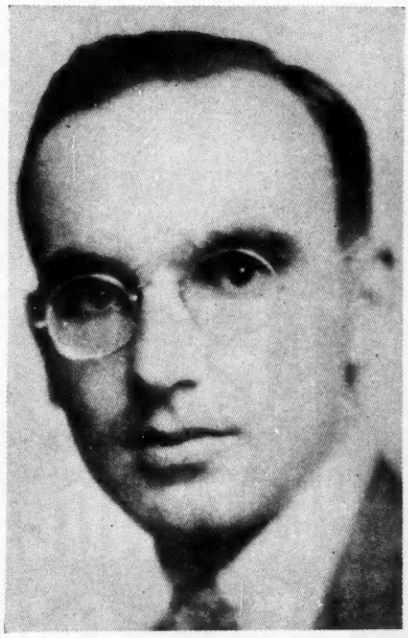
FORREST W. HOOD has been appointed district geologist at Enid, Oklahoma, for Ohio Oil Company. Assisting him there will be Anatole Ivanovitch Sofanov. Milton Barrett will be scout, and Marion Wall clerk.

WILL F. EARL is new district geologist at Ardmore for Ohio Oil Company. He will be assisted by Frank King, scout and George Rader, clerk.

PAUL POTTER, formerly assistant chief scout for Shell Petroleum Corporation at Tulsa, has been transferred to Wichita, Kansas, where he will be chief district scout for the company.

RICHARD T. BRIGHT, valuation engineer of Tulsa, has established offices at 920 Palace Building there.

EDWARD W. CHATTERTON of Illinois has been appointed a member of federal tender board No. 1, to succeed the late C. L. Waterbury, it was announced by Secretary of the Interior Harold L. Ickes, September 20. Chatterton has been in the government service for nearly 30 years, serving in the post office department as a post office inspector making investigations of fraudulent use of the mails, and in the treasury department as deputy commissioner of internal revenue.



A. J. GALLOWAY

H. F. OSLER, President of the C. & E. Corporation, Ltd., Turner Valley producing company, has announced the addition of H. R. Milner, K. C., Edmonton, and Victor M. Drury, Montreal, to the company's directorate.

J. R. TORRANCE, head of The Texas Company's geological staff at Barkersfield, California, recently returned from a vacation with his family in Balboa, California.

W. H. FULLILOVE, formerly connected with Sperry-Sun Well Surveying Company, has joined the Allison Drilling Company of Long Beach, California.

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for Deep Holes is

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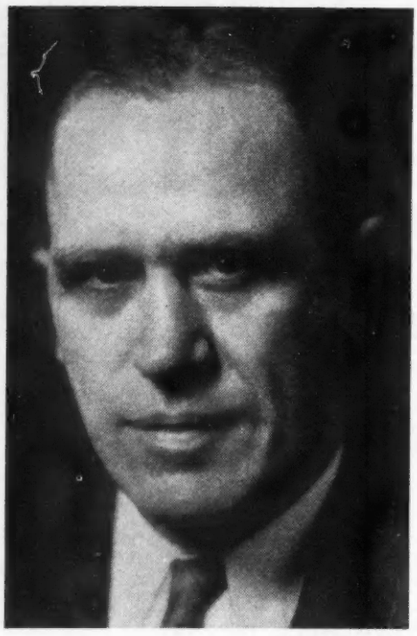

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TOM BROWNFIELD

Chief scout for Carter Oil Company at Tulsa, has been elected chairman of the oil and gas pool nomenclature committee of the Kansas-Oklahoma division of the Mid-Continent Oil & Gas Association. Other officers include: Paul S. Hedrick, oil editor, Tulsa Daily World, vice chairman; Glenn E. Patchett, statistician for the association, reelected secretary; and E. C. Jacobson, retained as map expert.

Brownfield, who attended both Oklahoma and Tulsa Universities, had its first experience in the oil industry as tank builder's helper for Black, Sivalls & Bryson, Inc., in 1913. After spending considerable time in the United States Navy, he joined Carter Oil Company in 1927, most of which time he has spent in various scouting duties.

CLAUDE ADAMS, independent operator of San Diego, California, recently returned from a business trip to New Mexico.

R. L. MARTSON, production superintendent for Sun Oil Company in the Rio Grande City district, Texas, has been temporarily transferred to Aberdeen, Washington, where the company is drilling a deep wildcat.

ELDEN YOUNG, in the legal department for Gulf Oil Corporation, Pittsburgh, has been transferred to Houston to relieve David Proctor, now in Pittsburgh. While enroute to Houston, Young experienced a slight automobile accident.

CLYDE BEBEE has been transferred to Tulsa from Ardmore as district scout for Shell Petroleum Corporation.

CAMPBELL M. HUNTER, of London, England, organizer and president of Hunter Valley Oil Company, was in Calgary, Alberta, recently on business connected with the wildcat test being drilled in the foothills west of Olds.

C. R. OBERMYER, Shreveport, general manager of the Great National Oil Corporation, was in Newton, Illinois, recently to supervise preliminary plans for the company's first well in the coal basin area. Location of the test, which will be spudded in two weeks, is one mile west of Newton.

W. D. CRAWFORD, drilling contractor of Louisiana and Texas, has formed a partnership with "Alabam" LaMasters, formerly active in Texas and Oklahoma fields, to engage in drilling activities in the Illinois coal basin area.

JACK SIMON, Urbana, Illinois, of the Illinois State Geological Survey, suffered a fracture of his right arm below the elbow when the automobile in which he was riding struck a concrete abutment seven miles south of Mattoon.

ROBERT M. PAYNE, division land man for Illinois and Indiana for the Carter Oil Company recently addressed the Mattoon Rotary Club on "Oil in Illinois."

E. M. CRAIG, president of Mar-Jon Oil Company, Ltd., with offices in Vancouver, was a Calgary, Alberta, visitor recently.

A. C. JOHNSON, Calgary, was re-elected president of Anaconda Oil Company, Ltd., at the company's annual meeting held in Calgary. Other officers are J. T. Atkinson, vice president; A. J. Scott, secretary-treasurer and manager director; and W. B. Fraser, J. R. Hammill, Dr. Robert Mackenzie and O. L. Reinecke, directors.

JOHN A. BROWN of New York, president of Socony-Vacuum Oil Company, Incorporated, accompanied by Mrs. Brown, returned recently from an European tour which included Austria, Germany and Switzerland.

A. T. GANO is the new stores manager in the Puerto Wilches district of Colombia for Compania de Petroleo Shell de Colombia. Gano formerly was with Venezuelan Oil Concessions, Ltd., at Lagunillas.

JOHN D. GLASS, chief federal oil board investigator in East Texas, has resigned this post to devote his time to the practice of law in Tyler, Texas.

RAYMOND D. WOOD, formerly geologist for Humble Oil & Refining Company, Houston, has been added to the geology instructional staff of the University of Houston.

HERBERT W. MACK, chief clerk, production department of Mexican Gulf Oil Company at Tampico, Mexico, is en route his home in Massachusetts by motor. He is accompanied by Mrs. Mack. They will visit the oil exposition in Houston on their return trip.

JOHN BRYCE SHAW, with Ohio Oil Company, Wichita Falls, Texas, is attending the National Convention of the American Legion in New York. Before returning to Wichita Falls he will visit with his parents in Pittsburgh, Pennsylvania.

S. F. SHAW, consulting engineer for Westgate-Greenland Oil Company, San Antonio, Texas, is in Corpus Christi, where the company is building a gas-lift plant.

Promoted

WILLIAM H. CARSON

Former acting director of the School of Petroleum Engineering at the University of Oklahoma, Norman, has been named dean of the college of engineering. Carson replaces Dr. J. H. Felgar, who resigned last summer due to ill health. Carson has had much to do with the success of the Southwestern Gas Measurement Short Course, sponsored by the University, and held there each spring. He has taken a very active part also in the petroleum division work of the American Society of Mechanical Engineers.

G. H. MURRAY, formerly chief petroleum engineer for Shell Petroleum Corporation, recently joined Schlumberger Well Surveying Corporation, Houston.

GEORGE R. PINKLEY, San Antonio, geologist for Fohs Oil Company, was in Houston during the week.

JOHN T. O'NEIL, president of Wellington Oil Company of Delaware, San Antonio, is smiling from ear to ear. His first wildcat on a 375,000-acre block in the Chittim district of Southwest Texas has set casing for completion. He gives all the glory to Squire Green and William Curry, his geologists, and Allen & Morris, drilling contractors, also of San Antonio, drillers of the well.

K. D. HARRISON of San Antonio is back from a trip into Mexico.

JOHN CAMP, JR., vice president of John Camp Drilling Company, San Antonio, has moved to Austin to attend the University of Texas.

JUDGE J. R. DOUGHERTY of Beeville and S. F. Hurlburt of Corpus Christi have formed the La Sal Viejo Oil Corporation for the purpose of carrying on a deep wildcatting program in the Rio Grande Valley.

[Continued on page 54]

Holding Steady

Inventory is satisfactory while proration of production is arranged for current demand.

MARKETS generally were not changed during the week. Crude buyers in a few instances have adjusted their buying but this has not left any oil going begging and current postings are given firmness by proration allowances being kept in line with anticipated demand in coming weeks. Current figures on crude storage also are encouraging.

Refined markets are reported less active in motor fuels due to the fact that the continued high consumption is being supplied by shipments on contracts. There is little trading in the spot gasoline market.

Natural gasoline continues scarce.

Furnace oils are in demand above free supply as refiners are holding their stocks against contract commitments. Prices on what trading is done in this commodity are firm to slightly higher. Heavy fuels also are in good demand.

The reduced refinery activity of the week ended September 18, down 55,000 barrels, resulted in a closer balancing of output of refined products with market requirements, as evidenced by the fact gasoline production was held under current needs, permitting some withdrawal from storage, as is customary at this season. The gasoline inventories came down approximately 400,000 barrels within the week, and stood September 18 at 66,057,000 barrels.

Inventories Satisfactory

While current operations at wells and refineries are moderate, with similar good results in prospect through October, the industry also continues to hold the important advantage of a desirable inventory position, gained through moderation in the past.

Crude oil stocks on September 11 stood at 309,054,000 barrels, or approximately 3 percent higher than on the comparable date last year. While the crude stocks show this expansion, they have not been increased to the full extent of the gain that has occurred meanwhile in petroleum consumption. The demand has been running about 11 percent higher this year than last year.

Gasoline inventories, however, make a less favorable showing. The total stocks of 66,057,000 barrels on hand September 18 were about 15 percent greater than those held one year previously. Such an increase in the gasoline inventories is not fully justified by the gain that has occurred in gasoline consumption. The gasoline demand has been running this year only about 10 percent higher than last year.

Imports of petroleum for domestic use and in bond at principal United States ports for the week ended September 18 averaged 137,857 barrels daily, compared with a daily average of 172,857 barrels for the week previous, and a four-week average of 167,571 for the period ending September 11.

Mid-Continent Prices

Tank car prices at Mid-Continent refineries late last week were largely the same as for the preceding several weeks.

U. S. motor gasoline continued to range in the Oklahoma market about as follows: 62 octane and below, 5 to 5⅛ cents a gallon; 63 to 67 octane, 5⅜ to 5½ cents; and 68 to 70 octane, 6 to 6⅛ cents.

Corresponding prices in the Chicago market were: 4¾ to 5 cents, 5¼ to 5⅝ cents, and 5⅝ to 6 cents.

At East Texas refineries the most common product, 60-62, 400 end point gasoline, ranged from 5 to 5⅛ cents a gallon.

Kerosene prices f.o.b. Oklahoma refineries ranged from 4 to 4¼ cents a gallon for the 41-43 water white grade, and from 4¼ to 4⅜ cents for the 42-44 water white grade. Corresponding prices in the Chicago market were: 4 to 4¼ cents and 4 to 4⅜ cents.

Consumption declines while runs to refineries increase

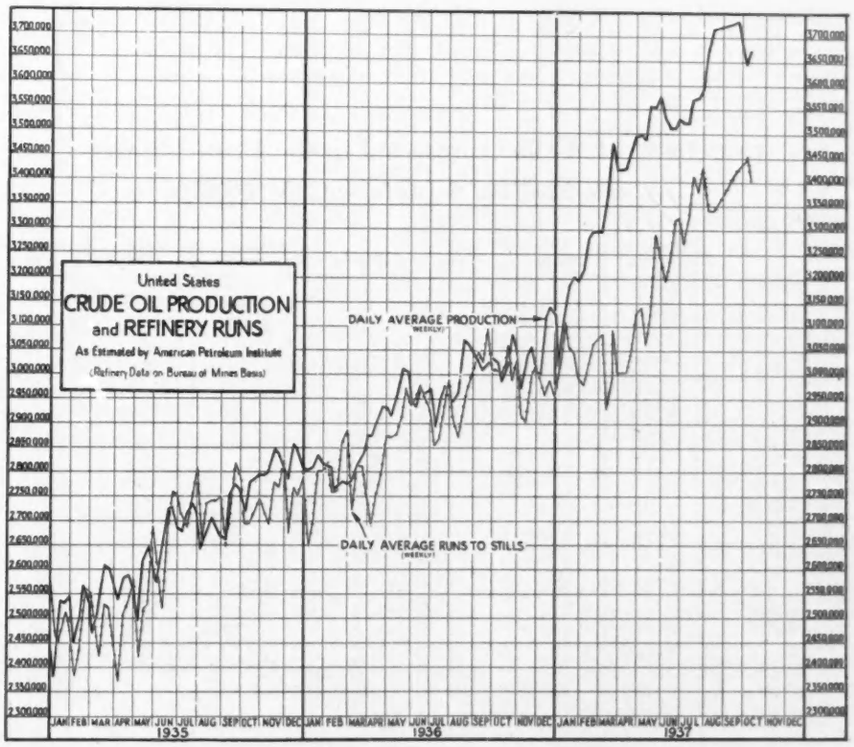
Washington, D. C.—A sharp decline in lubricating oil and gasoline consumption in July, but an increase in pipe line transportation and processing, is indicated by the monthly tax report of the Bureau of Internal Revenue, issued September 22.

Receipts in August (covering July business) from the gasoline tax dropped to $13,805,395 from the year's high of $19,471,055 in July and were nearly $9,000,000 under the $22,552,321 collected in August, 1936.

Revenues from the lubricating oil taxes also were under both the preceding month and the corresponding month last year, totaling $1,809,343, against $4,371,623 in July and $3,404,410 last August, and touched the lowest figure recorded since March, 1936.

Collections from pipe line transportation, however, were at a high level at $1,277,829, against $1,105,461 in July and $958,962 in August a year ago, and receipts from the processing taxes also were at a high level at $124,668 against $84,695 in July and $76,698 in August, 1936.

For the eight months ended with August, however, the bureau reported,



collections from all of the oil taxes were above the corresponding period last year, the gasoline tax returning $123,306,029 against $117,103,261; lubricating oils $22,029,962 against $19,087,058; pipe line transportation $8,244,003 against $6,865,594; and processing $665,521 against $509,913.

Texas official figures on July output reported

Austin.—A report issued by the Texas Railroad Commission last week shows that the total indicated production for Texas for July was 43,584,364 barrels, an average of 1,405,933 barrels daily. This average is 18,680 barrels daily more than was produced during June.

The commission listed 73,502 producing wells, 900 more than were produced in the previous month. This included 29,762 flowing and 43,740 pumping wells. Total allowable for July was 44,762,836 barrels, an average of 1,443,962 barrels per day. The indicated production was 1,178,472 barrels less than the allowable.

During the month, lease storage increased 61,965 barrels to 4,453,079 barrels. Runs to pipe lines totaled 43,172,036 barrels.

Tank car movements amounted to 52,578 barrels; 137,322 barrels was shipped by truck, and 65,913 barrels was used for fuel and miscellaneous purposes.

Item	July 1936	July 1937	Increase
Number of Operators	4,497	4,951	454
Number of leases	12,960	14,515	1,555
Flowing wells	25,685	29,762	4,087
Pumping wells	38,394	43,740	5,346
Total wells	64,079	73,502	9,423
Lease storage, beginning	4,026,199	4,391,114	364,915
Total Allowable	36,284,130	44,762,836	18,478,706
Daily Allowable	1,170,456	1,405,933	235,477
Reported Production	35,218,042	43,491,901	8,273,859
Daily Av. Prod.	1,136,066	1,402,964	266,898
Runs to Pipe Lines	34,957,866	43,172,036	8,214,170
Tank car movements	43,623	52,578	8,955
Truck movements	155,800	137,322	[1]18,478
Fuel	36,208	37,053	845
Miscellaneous uses	25,398	28,860	3,462

[1] Indicates decrease.

Trends of United States Production and Stocks

(Figures American Petroleum Institute, except Crude Stocks, Bureau of Mines)

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	Gas & Fuel Oil Stocks (Barrels)
January 2, 1937	3,121,400	3,030,000	287,659,000	62,661,000	106,330,000
January 30	3,194,050	2,995,000	285,384,000	69,540,000	102,078,000
February 27	3,296,100	3,085,000	288,121,000	78,786,000	99,534,000
March 27	3,431,300	3,060,000	293,587,000	*83,538,000	96,591,000
April 24	3,496 400	3,125,000	300,737,000	82,303,000	94,100,000
May 29	3,573,000	3,245,000	306,445,000	78,758,000	96,139,000
June 26	3,529,600	3,235,000	307,679,000	75,427,000	100,395,000
July 31	3,591,900	3,425,000	308,250,000	70,872,000	108,209,000
August 28	*3,731,450	3,425,000	309,506,000	66,997,000	112,111,000
September 4	3,692,550	*3,445,000	310,417,000	67,048,000	113,443,000
September 11, 1937	3,642,400	3,445,000	309,054,000	66,456,000	114,666,000
September 18, 1937	3,671,200	3,400,000	.....	66,057,000	116,178,000
September 19, 1936	3,037,000	3,010,000	298,448,000	57,286,000	113,118,000

* All time peak.

Summary of Wells Completed in the United States Week Ending September 25, 1937

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1937	Total this Date 1936
Alabama	....	....	....	....	.....	1	2
Arkansas	4	4	....	....	4,486	87	72
California	28	22	....	6	25,990	1,108	848
Colorado	1	....	....	1	.....	11	10
Florida	....	....	....	....	.....	1	1
Illinois	32	13	....	19	4,396	178	4
Indiana	....	....	....	....	.....	90	147
Kansas	54	39	5	10	49,751	1,955	1,229
Kentucky	23	14	3	6	271	297	208
Louisiana	24	17	5	2	8,321	717	745
Michigan	17	12	....	5	7,865	702	581
Mississippi	1	....	1	....	.....	11	6
Montana	6	5	1	....	66	146	128
Nebraska	....	....	....	....	.....	....	....
New Mexico	16	14	2	....	6,182	521	424
New York	....	....	....	....	.....	14	....
Ohio	34	10	16	8	149	1,105	1,372
Oklahoma	52	33	5	14	11,461	2,284	2,184
Pennsylvania	4	....	3	1	.....	151	....
Texas	278	227	5	46	422,911	11,214	9,266
Utah	....	....	....	....	.....	....	....
West Virginia	17	4	11	2	27	677	480
Wyoming	4	2	....	2	32	80	62
Total this week.	595	416	57	122	541,908	21,350	17,769
Total last week.	545	369	58	118	455,113	....	.....
Total this year.	21,350	14,830	1,790	4,730	17,762,144	....	....

To start soon on gasoline plant for McCampbell field

Corpus Christi.—Construction will be commenced soon on a large compression-absorption type gasoline plant in the McCampbell deep field of Aransas and San Patricio counties, where wells are producing from sands ranging from 6550-7130 feet. Warren Petroleum Company of Tulsa has signed a contract with half of the producers in the field for their output of gas, and is negotiating with the remainder.

The plant will process in the neighborhood of 100,000,000 cubic feet of gas per day and will cost approximately $350,000.

Withdrawal of Gulf as buyer does not retard Lisbon

Shreveport.—Despite an impending possible shut-down or sharp curtailment of production on October 1 when Gulf Oil Corporation, which owns the only pipe line to the field withdraws as a purchaser, Lisbon continues to maintain its level of recent activity, adding six producers during the week.

On the northeast edge of production, Harry Hanbury completed Roberta Vaughan B-2, C N½ SW SE 25-21n-5w, flowing 90 barrels of oil the first hour through quarter-inch tubing choke from 5262 feet. On the west side of the field Standard Oil Company of Louisiana's King 4, C W½ SE NE 35-21n-5w, flowed 1122 barrels in 24 hours through 1-inch choke from 5304 feet.

Comparison of Permits Granted for New Wells

STATE	Week Ending Sept. 25	Total this Mo.	Total this Year	Total this Date Last Year	1936 Year Total
Arkansas	4	27	186	70	103
California	19	109	1,163	779	1,054
Louisiana	21	112	939	855	1,107
Kansas	51	228	2,059	1,307	1,873
Michigan	14	69	729	540	762
Oklahoma	53	182	2,142	2,138	2,594
Texas	388	1,271	13,373	11,262	15,582
Total	550	1,998	20,591	16,951	23,075

Slightly Lower

Declines in Oklahoma, Kansas and California overbalance slight increases in other areas

CRUDE OIL production decreased slightly during the past week, ended September 25, as output of the wells of the United States averaged 3,659,275 barrels daily, which was 6550 barrels a day less than in the previous week, and 149,975 barrels daily more than the average daily production recommended for September by the Bureau of Mines.

Although the production for September had increased in the previous week, it is indicated that the production for October will be more in line with the actual domestic demand, as the Bureau of Mines estimate for that month will be 55,800 barrels daily higher than the daily average estimate for September. This increased estimate was based upon an abnormal export situation and unusually low gasoline yields due to a growth in demand for fuel oil. It is anticipated, however, that allowables for October for some of the principal oil producing states will be cut.

Oklahoma, Kansas, California Down

The slight decrease in production last week resulted from declines in Oklahoma, Kansas and California which exceeded small increases in Texas, Louisiana and New Mexico.

Texas last week averaged 1,496,100 barrels daily, which was 7500 barrels a day more than in the previous week, and 82,500 barrels a day more than the Bureau of Mines estimate of needed production.

Oklahoma output decreased 8725 to 600,450 barrels daily, and was 33,150 barrels under the estimated demand.

Kansas averaged 193,025 barrels daily, or 2450 barrels a day less than in the previous week and 7875 barrels less than the demand estimate.

California showed a decline of 4000 barrels daily, averaging 690,000 barrels a day, which was 51,800 barrels a day more than the Bureau of Mines recommendation.

Operators request and get cut in Goldsmith allowable

Austin.—In compliance with a request received from operators, the Texas Railroad Commission has ordered a reduction of 1994 barrels daily in the allowable for the Goldsmith field in Ector County. The new allowable of 10,000 barrels daily, which the operators said was all they could sell, will become effective on October 1.

Commissioner Ernest Thompson said September 24 that this reduction, which was in addition to the 23 percent ordered in the statewide proration order issued earlier in the week, indicated clearly that there would be a decline in the crude market during October. He said that this request proved conclusively that the commission was justified in reducing the Texas allowable more than 93,000 barrels daily.

CRUDE OIL PRICES

Complete tables of prices paid for crude oil at the well in principal fields is shown on page 56 of issue of September 6. This schedule will appear only in the first issue of each month.

United States Crude Oil Production

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in Sept.)	ACTUAL PRODUCTION BARRELS DAILY FOR WEEK ENDING	
		September 25	September 18
TEXAS—			
Texas Panhandle	.....	82,200	82,100
North Texas	.....	74,500	75,200
West Central Texas	.....	33,800	33,700
West Texas	.....	223,500	221,800
East Central Texas	.....	116,800	115,600
East Texas Field	.....	477,500	476,400
South Texas	.....	272,100	273,600
Texas Gulf Coast	.....	215,700	210,200
Total Texas	1,413,600	1,496,100	1,488,600
OKLAHOMA—			
Oklahoma City	.....	147,150	147,250
Seminole Area	.....	115,275	122,675
Crescent	.....	7,875	7,950
Lucien	.....	14,750	14,625
Fitts	.....	79,725	86,175
Edmund	.....	15,500	15,500
Moore	.....	9,875	9,800
Others	.....	210,300	205,200
Total Oklahoma	633,600	600,450	609,175
KANSAS—			
Ritz-Canton	.....	4,850	4,875
Chase	.....	7,925	8,350
Hollow-Nikkel	.....	2,625	2,600
Sedgwick	.....	3,800	3,750
Burrton	.....	14,200	14,000
Lorraine	.....	4,150	4,175
Russel County	.....	36,675	36,750
Silica	.....	18,475	18,900
Others	.....	100,325	102,075
Total Kansas	200,900	193,025	195,475
LOUISIANA—			
North Louisiana	.....	87,050	86,525
South Louisiana	.....	173,200	171,300
Total Louisiana	247,900	260,250	257,825
ARKANSAS	29,900	31,050	30,950
CALIFORNIA—			
Long Beach	.....	59,500	58,000
Santa Fe Springs	.....	42,500	42,500
Huntington Beach	.....	38,000	39,000
Dominguez	.....	30,000	30,500
Inglewood	.....	17,000	16,000
Ventura Avenue	.....	35,000	34,500
Seal Beach	.....	9,000	9,500
Midway-Sunset	.....	73,500	75,500
Elwood	.....	8,000	8,000
Kettleman Hills	.....	80,000	78,500
Mountain View	.....	18,000	19,000
Playa del Rey	.....	8,000	8,000
Others	.....	211,500	213,500
Total California	638,200	690,000	694,000
MOUNTAIN STATES—			
Wyoming	55,900	58,900	59,800
Montana	18,200	18,100	18,100
Colorado	5,000	4,600	4,700
Total Rocky Mountain States	79,100	81,600	82,600
NEW MEXICO	101,400	114,500	114,200
EASTERN STATES	124,300	140,200	142,100
MICHIGAN	40,400	52,130	50,900
Total United States	3,509,300	3,659,275	3,665,825

Men in the Industry's News

[*Continued from page 48*]

HERMAN LIVINGSTON, president of Mammoth Producing & Refining Company, announced location of the company's headquarters for Southwestern Illinois activity in Olney. The office will be opened on October 1. The company is active in the development of the coal basin area.

DR. G. S. HUME, Ottawa geologist who has had extensive experience in Southern Alberta, discussed "The Oil Situation in Southern Alberta" before the Calgary, Alberta, branch of the Engineering Institute of Canada last week. Members of the Oil & Gas Association of Alberta were guests at the meeting.

E. S. BOWDEN heads the new slate of officers of Century Royalties, Ltd., Alberta producing company, succeeding Robert Wilkinson. W. J. Greenbank was elected vice president, and Louis K. Bowden secretary and managing director.

RAY V. HENNEN, Morgantown, West Virginia, former chief geologist for Transcontinental Oil Company, last week inspected the Nesson Flats area of North Dakota, now the subject of a seismographic survey for Standard Oil Company of California.

M. H. ACKERMAN, Flora, is in charge of the Illinois offices of Lupher Drilling Company, established last week in Flora. The company, a newly organized Illinois corporation, of which M. S. Lupher of Columbus, Ohio, is president, and E. G. Snider, also of Columbus, is secretary, has completed two wells and has several other drilling contracts in the coal basin area.

C. A. STELLE and A. W. Modest, both of Mount Vernon, and John W. Walker, West Frankfort, have established the Central Egyptian Oil Company as an Illinois corporation to engage in the current development program in southern Illinois.

H. L. GRILEY, Tulsa geologist, is in charge of the Illinois district offices of Sun Oil Company established last week in Mattoon. Stanley G. Elder, also of Tulsa, is associated with him. The company has been leasing Illinois land since August, 1936, and now has several thousand acres signed up in important areas.

J. F. NAGLE, official of Skelly Oil Company, Tulsa, was a recent visitor in Houston.

WALLACE E. PRATT, director of Standard Oil Company of New Jersey, will be honored when the company will name its new 90,000-barrel oil tanker after him. The vessel will be christened by his daughter on October 2, at Chester, Pennsylvania.

W. A. HARVEY, purchasing agent for Skelly Oil Company, Tulsa, was a recent visitor in Houston.

B. E. QUINN of Beaumont, Texas, who has oil acreage in several southeast Texas counties, was a recent Houston visitor.

JOSEPH BERGERE, independent operator of Los Angeles, California, has returned from a trip to Alaska.

DUNCAN ALLEN, with the scouting department of Gulf Oil Corporation, Houston, is confined to bed, suffering from a severe cold.

W. H. TAYLOR, manager of Amerada Petroleum Corporation's office in Houston, is on a business trip to Fort Worth, Texas.

J. R. PARTEN, head of Woodley Petroleum Company, Houston, was recently in Abilene, Texas.

A. P. ALLISON, district geologist for Sun Oil Company, Houston, is at present in Dallas, Texas.

WILLIAM M. KECK, president of Superior Oil Company, Houston, was married to Mrs. Helen Troy of Pasadena, California, at Reno, Nevada, September 17.

GEORGE BRUNDRETT, scout for Fain-McGaha Oil Corporation, Wichita Falls, Texas, has been transferred to Abilene, Texas.

JOHN WHITNEY LEWIS, consulting geologist of Trujillo City, Dominican Republic, was a recent visitor in Dallas, Texas. Lewis is doing geological work in the Dominican Republic for Seaboard Oil Corporation, Dallas, Texas, as well as for the Atlantic Refining Company and the Royal Dutch Shell of Cuba.

CARL KRAUSE, with the land department of Ohio Oil Company, Houston, recently visited the company's West Texas land and geological office in San Angelo, Texas.

FORD TURNER, assistant manager of the land department of Pure Oil Company, Fort Worth, Texas, recently announced the arrival of a 9-pound boy.

C. M. CHASE, scout for Sun Oil Company, San Angelo, Texas, is back from a two-week vacation spent in Dallas, Texas.

HUGH CORRIGAN, independent operator of Midland, Texas, recently returned from an extensive trip to California and other Pacific Coast states.

FRED H. MOORE, geologist for Magnolia Petroleum Company, Midland, Texas, has been transferred to Kermit, Texas, as resident geologist for the company's Walton lease.

T. C. WILLIAMS, land man, L. S. Coryell, geologist, and Joe Sauer, scout, all with Indian Territory Illuminating Oil Company, Bartlesville, Oklahoma, have been transferred to the company's newly established offices in Abilene, Texas.

ROY A. REYNOLDS, president of the Fort Worth Geological Society, appointed at the society's recent first fall meeting a committee as district representatives of the American Association of Petroleum Geologists. The committee appointed included: Bob Thompson, geologist, Danciger Oil Refineries, Inc.; Norman Thomas, paleontologist, Pure Oil Company, and John Lovejoy, with the Gulf Oil Corporation.

BURTON McCOLLUM, president of McCollum Exploration Company, Houston, recently made a trip to Billings, Montana, where he discussed the possibilities of geophysical work in that state.

GEORGE E. BURTON, district geologist for Sun Oil Company, San Angelo, Texas, recently returned from a vacation trip to Indianapolis, Indiana.

H. M. HOLDEN, JR., with the land department of Humble Oil & Refining Company, Midland, Texas, recently returned from a business trip to Houston, stopping over at San Angelo, Texas.

PERRY OLCOTT, geologist for Humble Oil & Refining Company, Houston, was the principal speaker at the Houston Geological Society's regular weekly meeting last Thursday. His subject was "Cost of Acquisition of Crude Oil Reserves."

A. M. HOGAN, consulting geologist and independent operator of Corpus Christi, Texas, recently made a business trip to San Angelo, Texas.

DR. FREDERICK FREI, consulting geologist of Los Angeles, California, recently made a trip to San Angelo, Texas, where he is interested in oil developments.

M. C. McGEHEE, JR., president of Texas Gulf Producing Company, Houston, enjoys the visit of his brother, Dan R. McGehee, congressman of Meadville, Missouri.

WILLIAM F. MORGAN, president of Morgan Gulf Oil Company, Houston, recently returned from a vacation trip to Honolulu, T. H.

E. A. SHOWERS, independent operator, Houston, has returned to his desk after completing a trip to the Rio Grande Valley, Texas.

H. R. CULLEN, Houston, together with other Houston oil men, is planning to attend the annual convention of the Texas Mid-Continent Oil & Gas Association to be held in Dallas, Texas, October 29 and 30. Cullen is vice president of that association.

MISS LOUISE WINDLINGER, secretary with Trinity Drillers, Inc., San Antonio is recovering from an operation. She is spending her idle hours at Lake McQueeny.

DON DANVERS, San Antonio independent, has returned from a vacation in California.

DIED:

TOM A. FRYMIRE, 41, vice president of National Standard Oil Corporation of Houston, died September 15 of injuries received in an automobile collision near La Feria, Texas. At the time of the accident he was on a return trip from the Rio Grande valley to Houston.

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WORLD DEVELOPMENT and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Greek Wildcatting

Lack of equipment delaying work on Zographos concession; Rees gets saturation near Tavi

GEORGE ZOGRAPHOS and associates have petitioned the government of Greece for foreign exchange to import from the United States drilling equipment for development of what formerly was known as the Yannoulates concession, near the town of Katerina. Due to the government's reluctance to export foreign exchange, it is anticipated considerable delay will take place before actual drilling can begin.

Cancellation Threatened

Nevertheless, and though the government is understood to have threatened cancellation of the Zographos concession on grounds of failure to develop within a specified time limit, the group has retained the services of a British engineer, with experience in Palestine, to supervise exploratory efforts.

Zographos feels the government has no grounds to cancel the concession as long as it will not allow him to import the necessary equipment for drilling. His organization, capitalized for 5,000,000 drachmas, is indirectly tied up with the National Bank of Greece.

Terms of the concession called for deposit of half the above capitalization as a surety for execution of clauses of the contract and stipulated formations down to 1200 meters must be penetrated. Thus far nothing but surface geologizing has been done, according to George Lewis Jones of Athens.

Four Concessions

Jones states there are four concessionnaires in Greece today, drawn there by surface indications. Shallow drilling has been done on two of the concessions this year, but nothing of commercial significance has been found.

Two wildcats have been drilled this year on the Thomas Bowen Rees concession which lies on both sides of Salonika. Paul Hopper of Washington, head of the petroleum and coal section of the minerals and metals division of the department of commerce, is informed that one of these, located at Mesimvria, north of Salonika, drilled to 300 meters without finding anything. However, as 300 meters is less than 1000 feet, the wildcat cannot be considered a fair test as the modern conception goes. The other wildcat, drilled by Rauter Kranz of Germany (the I. T. A. G. organization) near Anthophyton, east of Salonika, drilled to 400 meters, where methane bearing water was encountered.

Bidding for New Concession

P. Dashkalopoulos, also of Athens, advises that William Rees & Company of Germany now control the Markeglou concession embracing all of the eastern tip of Greece to the Turkish frontier. The National Bank of Greece and I. T. A. G. are financially interested in the Markeglou block. The latter organization, in charge of development on a royalty basis, drilled to 875 meters near the village of Tavi before abandoning. When the rig was moved to a location east of Tavi, saturated sandstone encountered at 630-33 meters resulted in a decision to enlarge the hole and drill deeper.

Bids were to have closed in September for a concession centering around Dragopsa, about 20 kilometers west of Jannina in Epirus. On the basis of surface geology, this is said to be a good prospect. Two tests have been drilled in the vicinity by a Greek-French syndicate, but having been taken to only 68 and 75 meters, respectively, they cannot be interpreted as having been serious efforts.

The Grecian Bureau of Mines states Zante, the only field in Greece, has declined to where its production is less than a ton a day. Zante, incidentally, is the oldest concession in Greece, having been granted to G. T. York back in 1865, six years after completion of the Drake well in America. It is located at Kerion, on the island of Zante. York later transferred the concession to Anglo-American Company, which drilled a couple of wells and got about ½ ton per day of heavy oil. Then, with annullment of the concession for lack of development, the government took a shot at it, stopping a test at 100 meters when rock was encountered. Then Zante concession passed to London Oil Development Company in about 1905. Exploratory efforts of this organization were blocked by water at 1250 feet. The government took Zante back, giving it to D. Colaitis in 1913. He drilled eight shallow wells without success, but still holds the concession. Details of the geology of Zante appeared in THE OIL WEEKLY of March 18, 1935.

Major companies in the United States are inclined to be skeptical concerning petroleum possibilities of Greece, although one big combine is keeping an observer there.

Manchuria Trying

Test drilling near Chalainor reaches 3171 feet without showings; Dairen shy light crude stocks

Mail communication from Manchuria received September 8 states drilling has been resumed on the "Manchukuo" government's wildcat at Chalainor, with the last reported depth 964 meters (3171.56 feet) in hard rock and no showings of commercial significance down to that point.

Drilling on the Chalainor wildcat has been slow and unsatisfactory since the well started in 1936. The government contributed 520,000 yen and Manshu Sekiyu Kabushiki Kaisha 280,000 yen to finance the project jointly to 1000 meters. At 942 meters the government is said to have withdrawn its financial backing, with the result that the private enterprise above attempted to persuade the government to reimburse it for the 280,000 yen it had advanced. The government refused, and it is assumed in Dairen that the financial burden is being borne by Kabushiki Kaisha organization.

Manshu Sekiyu Kabushiki Kaisha's refinery at Kanseishi, near Dairen, called the Dairen refinery, is facing an unpleasant situation in efforts to obtain desirable crude for its purposes. The refinery would like to import almost exclusively for throughput a crude oil of high benzine

content, similar to that produced at Kettleman Hills. But the chief supplier of crude to the Kanseishi plant, a well known major company combine, is understood to have agreed to furnish a certain amount of the Kettleman Hills type crude only on condition that the refinery accept also a certain amount of low benzine content crude produced in the Near East. This has meant that the Dairen plant has not been able to supply the demand in North Manchuria for kerosene in winter from its own runs and that it has imported twice as much kerosene in the winter as it has been able to produce. Although capacity of the plant for kerosene production is much larger, reliable reports are that lack of proper stocks held its output to 9 or 10 carloads of about 30 metric tons each during two of the winter months.

Considerable additional takage recently has been built at the Dairen plant and work on addition of a thousand-barrel cracking unit was expected to be completed by September 1.

Field Extended

Brown well half mile south of Turner Valley shows for producer; Amerada starts on Taber structure

A HALF MILE southerly extension to the southwest flank of Turner Valley field, Alberta, Canada, is indicated by Brown Oil Corporation's No. 1, Legal Subdivision 16, Section 16, Township 18, 2-w5. Completion of the well, bottomed at 6831 feet, is delayed pending recovery of a swab. Before the swab was lost, however, the well flowed and observers predicted a 1000-barrel producer.

Six Turner Valley wells are in Madison lime, with completion expected soon.

The oil flow at Davies Petroleums Ltd.'s No. 2, completed a week ago with an initial production of 2645 barrels daily, making it the largest well in Canada, was holding up well. Under proration limiting production of Turner Valley wells to 65 percent of their potentials, the well averaged 1396 barrels daily for the past five days.

Taber Structure to Get Test

On the Taber structure, near the international boundary, Amerada Oils, Ltd., announced location for a test on Legal Subdivision 13, Section 18, Township 9, 16-w4, approximately 2 miles southeast of Plains Petroleum Corporation's No. 1. The company holds 3000 acres in the North Cut Bank field on the Alberta side, in addition to a large block on the Taber structure. The test will be drilled with standard equipment.

Hunter Valley Oil Company's wildcat test on the Hunter Valley structure was drilling at 8217 feet as the week closed. It is the deepest Canadian test.

From other West Canadian structures, the following reports were received: On Birch Ridge, Elbow Oils Company set casing at 5198 feet; on Calling Valley, Anglo-Indian Oils Corporation, building derrick; Sentinal Oils, resuming at 5850 feet; on Cardston, Franco Oils, cleaning at 4580 feet; on Clearwater, Western Development Company, shut down at 142 feet; on Coutts, Home Oil Company's Coutts 1, drilling at 2770 feet; on Duncan, Spindletop Oils, set casing at 1600 feet; on High River-Aldersyde, Ranchmen's Gas & Oil Company, shut down at 7225 feet; on Highwood-Sinclair, Green Valley Petroleums' Banner, drilling at 3294 feet; South End Petroleums, cementing at 5500 feet; on Kootenay Dome, Roxana Petroleums, drilling at 3227 feet; on Lethbridge, Lethbridge Petroleums, cementing at 2198 feet; on Moose Dome, Moose Oils' No. 2, testing at 1553 feet; on New Valley, New Valley Oil Company, fishing at 8462 feet; on Pincher Creek, Weymarn Petroleums' No. 2, getting acid treatment at 6432 feet; on Ribstone, Dina Oil & Refining Company's No. 4, drilling at 1025 feet; London-Ribstone Petroleums' No. 2, testing; on Steveville, Anaconda Oil Company, fishing at 615 feet; on Taber, Plains Petroleum Corporation's No. 2, drilling at 2700 feet; No. 3, drilling at 2780 feet; on Wainwright, Altoba Oils, building derrick; Battleview Oils, testing at 1894 feet; on Watson, Mar Jon Oil Company's No. 3, changing from cable tools to rotary equipment at 5520 feet; Mar Jon - Maxmont Syndicate, drilling.

Pouce Coupe Program

Guardian Oil Company, Ltd., announced a drilling program for the Pouce Coupe structure, northwestern Alberta, which was tested in 1923 by the Northwest Company. Log of the Northwest Company's test shows a gas sand good for 10,000,000 cubic feet per day was encountered at 1673 feet, with additional gas sands at 1690, 2000, 2370 and 2733 feet. The test did not penetrate the Dakota sands, objective of the Guardian Oil Company.

Dr. J. O. G. Sanderson, geologist, reports that two other oil-bearing horizons underlie the Dakota—the Triassic Cavernouse limestone and the Devonian, which formations may be penetrated by the company. It is believed that the Triassic will be encountered at approximately 4000 feet.

Dr. John A. Allen, University of Alberta, describes the structure as a great terrace with a super-imposed, high anticline trending north and south. In his opinion, all conditions for the accumulation of crude are present, and he advises that any projected test be carried at least to the Triassic.

Dawson Creek Oil Company, Ltd., and several independent operators have leases in the area.

New Ontario Gas Field

In Ontario, a new field in the Brownsville natural gas area, just west of Tillsonburg, was opened by P. L. Jackson's Rodgers Holmes 1, which gauged 3,286,000 cubic feet of gas when bottomed at 942 feet. Locations for three offsets have been staked.

May Stop Imports

Fight against Turner Valley proration rule develops opposition to buying oil from United States fields

WHAT started out as a threatened war between major and independent operators of the Turner Valley, Alberta, field over a 65 percent proration order placed into effect by Imperial Oil Company, Ltd., and British American Oil Company, Ltd., principal crude buyers in the field, developed into a possible united campaign of Canadian producers and refining companies against crude importations from Montana and other United States fields.

The proration order was placed into effect by the distributing companies when crude in storage in the field and in Calgary mounted to 200,000 barrels, with storage facilities exhausted. It brought immediate protests from independent operators who declared proration was unnecessary as long as large amounts of crude were imported from Montana and Mid-Continent fields.

Representatives of 25 producing companies organized the Petroleum Producers' Association and named a committee to study action to be taken by the group to combat the proration order. W. C. Campbell, director of Anglo-Canadian Development & Holding Corporation, was named chairman of the committee, and Robert Wilkinson, president of National Petroleum Corporation, and W. C. Fisher, manager of Model Oils, Ltd., were named members.

Want Government Control

The committee immediately announced that provincial authorities would be asked to supervise proration as long as this measure was necessary.

"Experience in the United States and other fields has shown that any form of control other than government supervision is not satisfactory," Campbell said. "At present, the committee has no way of knowing whether proration is being applied equally to all wells. In fact, we believe that it is not."

Hon. T. A. Crerar, federal minister of mines and interior, who was in Vancouver last week, was asked to stop off on his return east to discuss the matter

with members of the committee. "It is a matter for the dominion government also," Campbell said. "At present, Turner Valley wells are being prorated to 65 percent, while American oil is permitted to come in at the same rate as before. The dominion government must deal with that matter, and also with the matter of transportation rates for oil to eastern points. We intend to see what power the federal government has, and what action it will take. We shall put the facts before dominion authorities as soon as possible."

Short Time Contracts

The impression existing among independent producers that refineries served by the Imperial and British American companies were tied up with American producers by long-term contracts were dispelled by officials of the purchasing companies. At present British American has contracts calling for 800 barrels a day from Montana, but all but one small contract expires at the end of the year. Imperial contracts are likewise short-term. Present Turner Valley production is approximately 12,000 barrels daily.

Representatives of the Imperial and British American companies, meeting with the producers' committee late in the week, agreed that limitation of crude imports into Western Canada would help considerably. It was decided that steps in that direction should be taken before efforts are made to obtain the eastern market.

Other plans under consideration include efforts to obtain lower freight rates and government subsidies for Valley crude so that markets may be extended as far east as Ottawa.

Meanwhile, at the request of the buying companies and producers, provincial government authorities will supervise proration in the field.

"We shall now endeavor to have the provincial government assist us in asking dominion action in limiting imports from the United States, and in getting reduced transportation rates to Eastern Canada for the purpose of extending markets," Campbell said. "The provincial government has an active interest in the matter of extending markets for Turner Valley oil, as it has a 10 percent gross royalty on Valley production."

Registration of workers in Alberta begun by government

The Alberta provincial government last week started registration of from 1500 to 2000 oil field workers in accordance with an order of Hon. E. C. Manning, minister of trade and industry. Many of those being registered are not engaged in oil field occupations, but are engaged in restaurant and other work.

The registration, Manning announced, is to supply data on which to modify or add to regulations established for protection of employes and the oil industry. It was recommended by a commission which some months ago conducted an investigation of working conditions in Turner Valley and other Alberta oil fields, especially with relation to importation of drilling crews from the United States, and is intended to provide operators with a complete record of the various types of skilled workers available.

One result of the commission's investigation was establishment of a 48-hour, 6-day week for workers in the field. Whether other restrictions will be placed on the industry following the registration now under way has not been indicated by provincial authorities.

ASKS FOR CONCESSION

Shell wants 7,600,000 acres for exploration

Shell interests, operating as Compania Guatemalteca de Petroleo Shell, have petitioned the Guatemalan government to grant the organization a concession embracing about 7,600,000 acres for exploratory work.

Fay Allen Des Portes, United States minister to Guatemala, says the concession asked for is divided into seven sections and involves certain areas in the Departments of Izabal and Alta Verapaz and practically all of the region of Peten, with the exception of a zone 15 miles wide following the border.

Guatemalan capitalists recently made requests for petroleum concessions. One asked for 100,000 acres in the vicinity immediately south of Lake Izabal on May 27. The second asked July 6 for one covering 170,000 acres north of the lake.

Exploratory work must start by April, 1938, on a concession of 6000 hectares (14,820 acres) granted in the south central part of the Department of Izabal to Consorcio Petrolero San Rafael.

NEED MORE MONEY

Financial grant for Gippsland used up

Australians interested in exploratory drilling in the Gippsland district in the southern part of the continent, near Melbourne, are hoping the state and commonwealth governments will authorize another grant of money for additional drilling as soon as possible.

June 30 the £10,000 jointly granted by state and commonwealth governments for exploratory drilling was used up. In using the money seven 1400-foot holes were drilled in the district from North Fernbank to Seaspray, and cores taken were sent to Canberra, F.C.T., for paleontological examination. Information obtained from them will be used in determining locations for a series of 4000-foot tests.

It is not known whether the state again will help finance drilling in the Gippsland district, but the commonwealth government has recommended deeper drilling in 1938 and modernization of equipment used. According to Ralph Hunt of Melbourne, if the financial grant goes through, it is planned to utilize some of the equipment purchased by the commonwealth government for exploratory drilling in Queensland.

Gippsland Basin is one of Tertiary sediments. Existence of oil at Lakes entrance is known, and for this reason interest in the district is maintained. Eric Rudd of Sydney, N.S.W., says the surface evidence in Gippsland area is scarce and limited to the edge of the basin and that subsurface data are difficult and expensive to obtain.

MEXICO

Completions

(August)

Company, Well and Location	Init. Prod. Bbls.	Depth
American International Fuel & Pet. Co., Altamira 85, Altamira, Tamaulipas state	*	1984
Gulf Coast Corp., Cacaliloa 364, Panuco, Vera Cruz state	13	1810
Kern Mex Oilfields Palma 53, Panuco	76	1667
Mexican Eagle Oil Jalpa 1, Villa de Jalpa, Tabasco state	20	5857

*Failures; †Junked; ¶Million cu. ft. gas.

TANK CAR RULING

Move units in Mexico only at orders of owner

Oil tank cars are the private property of oil companies operating in Mexico and cannot be moved except by orders of their owners, the National Railways of Mexico recently told a group of local industrialists who demanded that the tank cars be moved to relieve a shortage of gasoline and other petroleum products resulting from the strike that has suspended functions at the Poza Rica fields, Vera Cruz state, and a large refinery in Mexico City and another at Tampico of the Mexican Eagle Oil Company.

A great supply of oil will be available when this strike ends, for the product is being stored at the rate of about 10,000 barrels a day under an agreement with the strikers to permit that much daily production in order to keep the wells in shape. The average daily output of the Poza Rica fields under the Mexican Eagle Oil Company's control is 60,000 barrels, or about one half of Mexico's daily oil production.

Iran's June production totals 6,153,000 barrels

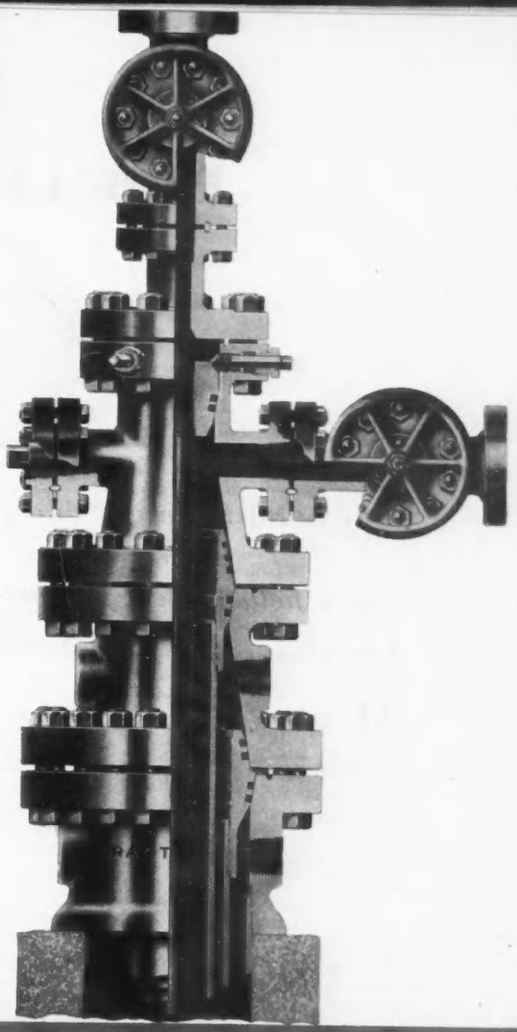
Production in Iran for June amounted to 879,000 tons, making a total of 4,749,000 tons for the first 6 months of 1937, according to official figures of Anglo-Iranian Oil Company, Ltd.

Converted on the basis of 7 barrels per ton, the above figures amount to 6,153,000 barrels production in June, bringing the total for the first 6 months of 1937 up to 28,494,000 barrels.

OIL FOR FRANCE

Pechelbronn field in France is yielding only 80,000 tons annually, or about one percent of the crude oil requirements of that nation. For the first half of 1937 Iraq was supplying about 57 percent of crude refined in France, the United States about 18 percent, Colombia and Peru about 6.5 percent each, Venezuela about six percent, and other countries about six percent.

GRAY



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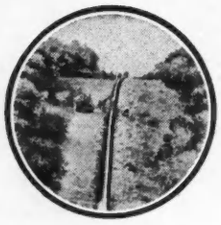
PIPE LINE NEWS



May build large gas line from Otis field.

* * *

Short field outlets planned or under way in North Louisiana, West and Southwest Texas.

MOST important pipe line development of the week was the prospect for a 200 to 250-mile 20-inch line from the Otis gas field across eastern Kansas into western Missouri. Plans are not yet definite, but a new company for constructing the systems has been organized.

Other pipe line work of the week included plans for an outlet from the Avoca and Wasson fields of West Texas, Saxet in Southwest Texas, Rodessa and Lisbon in North Louisiana, and a natural gasoline line in southwestern Kansas and northwestern Oklahoma. All these systems would be comparatively short.

New Otis Outlet Planned

Another outlet for the Otis gas pool of Rush and Barton counties, Kansas, is being planned, with organization of a new company underway, which would construct a 20-inch line from the field. The new concern will be Kansas Industrial Gas Company, whose line would supply 40,000,000 cubic feet of gas daily to industries in eastern Kansas and western Missouri, 200 to 250 miles away. The Otis gas field is the first to go on proration under the new proration regulations of the Kansas Corporation Commission, which gave it an allowable of 354,998,000 cubic feet for September. Sufficient gas to supply the new company is available at the field, according to a survey made by engineers.

Work is proceeding on two pipe line projects in Western Texas, designed to provide market outlets for several new oil fields.

Humble Pipe Line Company is preparing to build a 4-inch line from its Bluff Creek station, western Shackelford County, West Central Texas, to the new Avoca pool in northeastern Jones County, where several wells have been completed.

Humble Pipe Line Company also has resumed work on its 6-inch line that will extend northeasterly from Hobbs, New Mexico, to the new Wasson field, Gaines-Yoakum counties, West Texas, a distance of 26 miles, and thence to the new Bennett field, Yoakum County, 12 miles farther.

Continental Oil Company, meanwhile has abandoned its tentative plans to build a 6-inch line over practically the same route from Hobbs to Wasson to Bennett.

Contract New Saxet Line

Another 250,000 barrels of storage at tidewater, plus a pipe line and gathering system for the Saxet district, Nueces County, Southwest Texas, will result from a contract made during the week. M. A. R. Pipe Line Corporation, headed by T. E. McArdle and C. Andrade III, let a contract to J. W. France for the building of a 16½-mile 6-inch welded line from the Saxet field to Corpus Christi and a 4-inch gathering system in the field.

This line will be tied into the Export Oil Storage Company's terminal on the Corpus Christi ship channel, which now has about 250,000 barrels of storage. A series of 10,000 and 80,000-barrel tanks, total capacity aggregating 250,000 barrels, will increase this amount to 500,000 barrels.

Both the pipe line and storage projects are underway and will be completed within the near future.

The lower ring of the first of two 55,000-barrel steel storage tanks to be erected at the Sunset, Louisiana, Station on Standard Oil Company of Louisiana's new system from Roanoke to Baton Rouge.

Surveying Rodessa Line

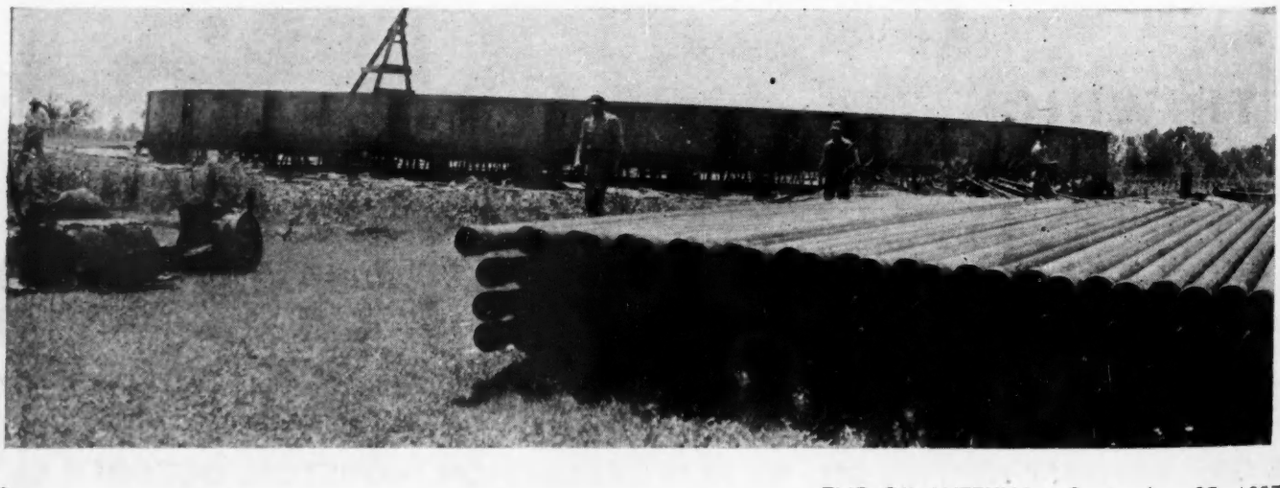
East Texas Pipe Line Company is surveying a pipe line right-of-way for a 6-inch line from its refinery at McCoy's Station just north of the town of Rodessa, Caddo Parish, to The Texas Pipe Line Company's receiving station in Section 28-23n-16w, just south of Rodessa, causing a report that East Texas may be planning on delivering crude from Rodessa to the Gulf Coast. East Texas is owned by Freeman W. Burford who has a large amount of production in the new Miller County, Arkansas, extension of Rodessa. He recently bought the Griswold Refining Company's plant at McCoy's Station.

Building Lisbon Outlet

Grogan Oil Company continues to work on its 6-inch line from Homer to the Lisbon field, Louisiana, and in the meantime is negotiating with Gulf Oil Corporation for purchase of its 8-inch line to the field, the only pipe line outlet at present. Gulf has anounced that at midnight September 30 it will cease to buy Lisbon crude. Negotiations between Grogan and Gulf were expected to come to a head during the week-end. Grogan's new line will not be completed to the field before October 15.

Short Natural Gas Line

Contract for construction of a pipe line from the booster station of Panhandle Eastern Pipe Line Company at Liberal, Kansas, to La Verne, Oklahoma, has been awarded J. R. Stewart Company by Phillips Petroleum Company at Bartlesville. Connecting with Phillips' main line, extending from Borger, Texas, to Bartlesville, the line will carry natural gasoline from the Panhandle Eastern plant 14 miles east of Liberal.



OKLAHOMA FIELDS

North Wellston, Billings and Fitts are extended.

* * *

Coal County gets wildcat Hunton Lime producer.

Tulsa.—Apparent failure of an important test southwest of Chandler in Lincoln County; extension of the North Wellston pool; extension of the Hunton lime zone at Fitts, and a new producing area for Coal County were highlights of activity in eastern Oklahoma last week.

Ardie Oil Company's State 1, NEc SE 16-14n-4e, southwest of Chandler, found top of the Wilcox sand at 4974 feet and took a core from 4974 to 4977 feet. Recovery consisted of two feet of saturated sand and one foot of green sand with shale streaks. The last foot tested salty. With packer set at 4965 feet, a drill stem test was made and when opened for 30 minutes, the well showed one joint of salty mud with no show of oil or gas. It was shut down for orders.

Extension well of the North Wellston pool of Lincoln County was Summitt Drilling Company's Eakers 1, NW SE SW 35-15n-2e, which pushed production one location southwest. It had top of the Wilcox sand at 5112 feet and drilled to 5130 feet for a flow of 75 barrels of oil per hour through casing. Skelly Oil Company has an 80-acre tract to the west of the new producer.

Coal County Well

Carter Oil Company and Gulf Oil Corporation's Buck 1, CEL SE SW 6-1n-8e, opened the Hunton zone in Coal County. Drilled to 4002 feet in the formation, the well was acidized with 2000 gallons and flowed 112 barrels of oil in two hours and 40 minutes. When tested earlier in the week, the well made only 77 barrels of oil in five hours net, and 93 barrels of oil in eight hours.

The extension well for the Hunton lime zone of Fitts was Sinclair Prairie Oil Company's McCarty 4, NWc NE 22-2n-7e, which was producing from 4029 feet. It was acidized with 10,000 gallons and made 186 barrels of oil net the first hour through casing. No free oil was found when the test was first drilled in.

Tentative plans were made to plug back and perforate casing on a level with the Hunton lime at Roy S. Nash Miller 1, CN½ NE SE 29-6n-3e, in the Asher-Wanette area of Pottawatomie County. When opened early last week, the well was found to contain 2300 feet of fluid. Only a very small amount of the fluid was oil and the test was waiting on orders.

Plugging back may also be the next step toward production at Stanolind Oil & Gas Company, Amerada Petroleum Corporation and Mid-Continent Petroleum Corporation's Salina 1, SE NE NW 4-5n-6e, south of the Konawa pool in Seminole County. During an 8-hour swabbing test the well made 12 barrels of oil and 114 barrels of water. It was shut down and may plug back to test the Hunton lime.

Mid-Continent Petroleum Corporation's Ne-Thah-Pea-Se 1, SEc NE 24-11n-5e, northeast of the North Earlsboro pool in Pottawatomie County, shut in since August 31 while waiting on pipe line connections, was opened late last week and flowed 234 barrels of oil in 24 hours through tubing. It is bottomed at 4886 feet in dolomite.

Carter Oil Company et al's Claytor 1, CW½ NE SW 27-2n-9e, in the Centrahoma area of Coal County, was drilling at 6060 feet in Viola lime with slight stains of oil showing. The hole was reduced to 8⅝ inches at 6018 feet in the formation. A core in the lime from 6018 to 6023 feet showed six inches of white, porous lime with a slight stain of oil and a show of gas.

In the West Fitts area, recently opened by C. W. Roodhouse et al's Booth 1, Magnolia Petroleum Company's Mayhue 1, NW SW SW 20-2n-6e, was drilling ahead with 1500 feet of oil in the hole. The test had the pay at around 3160 feet. Top of the Cromwell sand was not reported. The well continued making hole below 3173 feet.

West of Kendrick in the same county, Continental Oil Company et al's Community 1, NWc SE 7-15n-5e, drilled to 3550 feet in the Peru sand and had a small show of oil and gas. It was drilling at 4310 feet, supposedly in the Hunton lime.

Sad word from Haskell County is that eastern Oklahoma's deepest and most closely followed test may be abandoned. The well is Continental Oil Company's Ferguson 1, SW SE NE 33-8n-20e, on the Kinta anticline. At last reports it was drilling at 6919 feet in the Simpson section, making very little footage. The well had top of the Simpson Dense at 6850 feet and encountered a very hard sand at 6882 feet. At 6886 feet an attempt was made to take a core, but the formation was too hard. The well has had practically no showing of oil.

W. B. Pine's Amosan 1, SEc SW 15-6n-6e, in the Traugh sector of Seminole County, was pinched in to flow 180 barrels of oil per hour from a total depth of 3779 feet in the Wilcox sand. When first opened the well flowed 400 barrels of oil in 1 hour and 10 minutes through casing.

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Billings extended one location southeast

Oklahoma City.—The Billings pool of Noble County was given a southeast extension last week, and other pools in the Oklahoma City sector reported several good producers. Three new producers were in the south portion of the Lucien pool, in Logan County, and an east edge well at Edmond missed the Wilcox sand entirely.

Extension well at Billings was Phillips Petroleum Company and Shell Petroleum Corporation's Hackett 4, SWc SE SE 21-23n-2w. The extension was one location southeast. The well flowed 2379 barrels of oil while laying down drill pipe with the hole at 4333 feet in the Wilcox sand. The flow was had during the first 6 hours and 45 minutes.

Three Lucien Wells

In the Logan County portion of the Lucien pool, three producers were completed. Champlin Refining Company's Pfeiffer 5, NE NW NW 4-19n-2w, made a potential 3948 barrels of oil at 5005 feet in the Wilcox sand. Gas was gauged at 16,500,000 cubic feet. It was to be deepened.

Champlin's Pfeiffer 6, NWc 4-19n-2w, drilled to 5050 feet in the Wilcox, and established a potential of 3210 barrels of oil. It flowed 1705 barrels of oil during the first 12 hours of the test.

The third producer was Champlin's Pfeiffer 7, SW NW NW 4-19n-2w, which recently extended production one location south. It made a potential of 3085 barrels of oil from 5043 feet.

A new well on the west side of the Billings pool was Continental Oil Company's Conway 8, SW NE NW 21-23n-2w, which made a potential of 4550 barrels of oil through tubing. It made 4,000,000 cubic feet of gas from 4310 feet in the Wilcox sand.

On the east edge of the Edmond pool of Oklahoma County, Ohio Oil Company's Dahl 15, SE NE SE 31-14n-

3w, was drilling below 6460 feet in black shale, after finding the base of the Pennsylvanian at 6360 feet, but found only quartzite where Wilcox sand normally is found.

Oklahoma-Kansas wildcatting is scattered over vast area

It has been a long time since Oklahoma and Kansas wildcatters have scattered their shots as at present. This is particularly true in Oklahoma where the four corners of the state are being prospected in an effort to change the status of certain sections from condemned sectors to speculative areas. The responsibility for this definite trend is in the fact that there have not been sufficient new discoveries in the state within the past 18 months to compensate for withdrawals. In brief review, some 21 new fields have been proven, but of these a majority have already been limited by subsequent development. More recent strikes are problematical in their extent with nothing to indicate major fields.

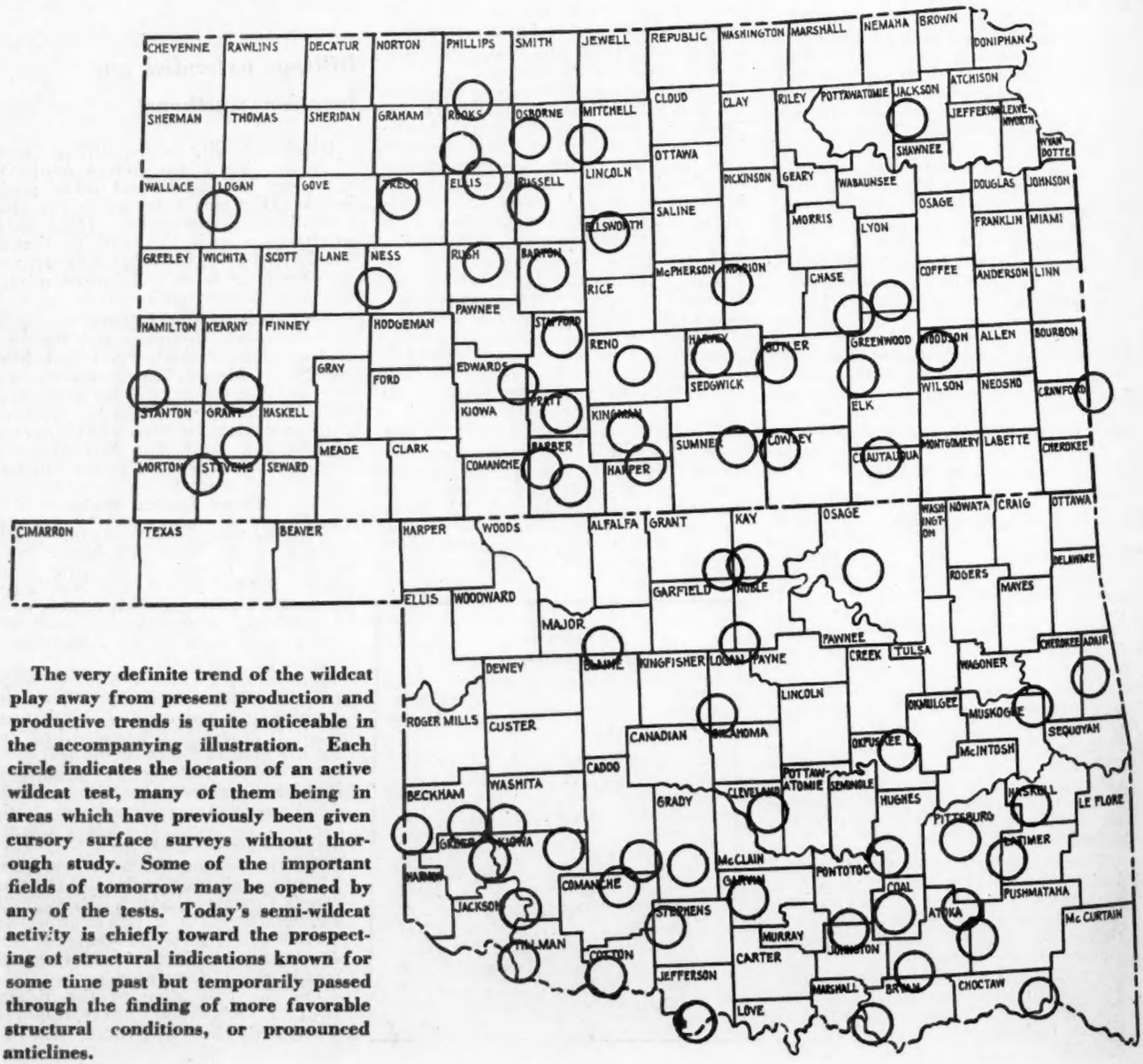
In Kansas, the play of the past four years is continuing along the Central Kansas Uplift, with new pools being proven weekly. Along this trend locations have been made that were only remotely related to the major geological features. Some of these have proven new areas that generally have not been developed through lack of outlets. Heavy leasing has been in progress along the general trend with the result that interests desiring to wildcat have found it necessary in some instances to block up tracts outside the acknowledged play. This fact has resulted in numerous interesting tests, and although many were failures, they greatly added to the geological considerations. Another important influencing factor in Kansas wildcatting at present is the retracing of older sections in the eastern part of the state. Areas that were hastily condemned in past years by one or two wells are gaining the spotlight. New methods of prospecting, new equipment, greater knowledge of local conditions and random shots have opened important eastern Kansas fields at shallow depths and called for important wildcat locations.

The care and thought being put into present effort directed to uncovering indications in off-trend sectors is widely acknowledged. Widening of the play is considered a healthy sign by many observers and they point out the very evident influence a strike in condemned region would have in broadening the scope of activity in the northern Mid-Continent.

OKLAHOMA
Completions

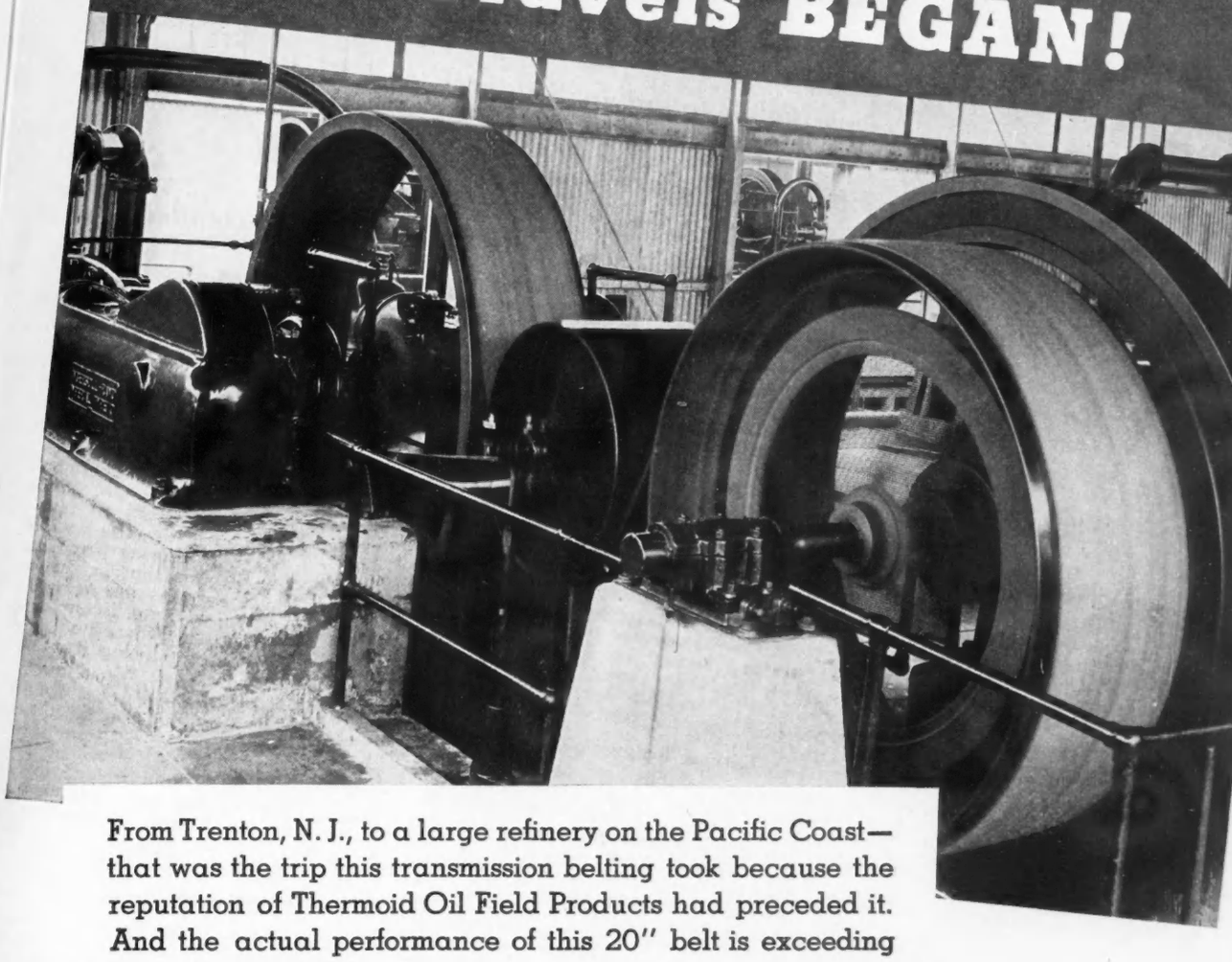
Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO COUNTY—		
Ray Stephens, Inc., Griffen 1A, sw se ne 27-6n-10w (pb 4893).....	¶80	6880
CARTER COUNTY—		
H. F. Potts et al, Franklin 1, se se se 9-1s-2w	*	770
Carter, H. A. Ward 43, nw ne nw 6-4s-3w (pb 1195)	10	1200
Snowden & McSweeney, Apple-Frankl n 30, nw sw ne 9-4s-3w...	12	1080

[*Continued on page 64*]



The very definite trend of the wildcat play away from present production and productive trends is quite noticeable in the accompanying illustration. Each circle indicates the location of an active wildcat test, many of them being in areas which have previously been given cursory surface surveys without thorough study. Some of the important fields of tomorrow may be opened by any of the tests. Today's semi-wildcat activity is chiefly toward the prospecting of structural indications known for some time past but temporarily passed through the finding of more favorable structural conditions, or pronounced anticlines.

After 3000 Miles . . . Its Travels BEGAN!



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DRILLING BELTS
BRAKE LININGS
AND
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[Continued from page 62]

Company, Well and Location	Init. Prod. Bbls.	Depth
CLEVELAND COUNTY—		
Holenbeck et al, Ward 1, sw se ne 30-7n-1e	*	6949
Sinclair Prairie, Holmes 2, se ne se 28-10n-2w	1568	7285
CREEK COUNTY—		
Tulsa Oil Co., Patrisio 1, sw sw sw 12-19n-9e	40	1174
Strozier, Gidney 2, sw nw se 12-16n-11e	75	2348
GARVIN COUNTY—		
Skelly Oil Co., Hinkle 2, nw nw sw 32-1n-3w	252	3393
HUGHES COUNTY—		
Carter et al, O. J. Hamilton 1, cw½ ne sw 33-4n-9e (pb 5800)	79	6179
Suppes & White, Bond 1, sw sw se 1-7n-8e	*	1099
Ptoco, Dixon 1, sw ne nw 12-9n-8e	¶11.4	4037
Amerada, Stewart 2, ne sw nw 31-9n-9e	125	4052
Moroney & Healey, Field 1, cnw nw 11-9n-11e	*	3545
JEFFERSON COUNTY—		
Circle Oil Co., Seay 53, se se sw 3-7s-5w	45	1100
LINCOLN COUNTY—		
Sun Oil, Cook 4, sw nw sw 1-14n-3e (pb 4270)	20	4514
Stanolind-Amerada, Eakers 2, se se sw 35-15n-2e	794	5118
Sparn 2, se ne se 20-17n-3e	130	4590
LOGAN COUNTY—		
Amerada-Stanolind, Knight 1, sw sw sw 12-17n-1w	870	5100
MUSKOGEE COUNTY—		
Lambert, A. Tucker 1, ne sw nw 16-15n-15e	15	1320
Downing, A. Fisher 1, se se sw 31-16n-15e	*	1302
NOBLE COUNTY—		
Tide Water, H. Folkes 1, ne nw ne 28-23n-2w	3226	4339
OKLAHOMA COUNTY—		
Sinclair Prairie, Stamper 7, se se nw 30-11n-2w (pb 4069)	22	4195
J. Lane Wilson, School Land 1, sw sw ne 35-12n-3w	650	6405
Frank Buttram et al, W. A. Cole 1, nw nw nw 16-14n-1e	*	5870
OKMULGEE COUNTY—		
Browning, A. Washington 1, cse nw nw 21-14n-12e	*	2171
E. H. Moore, A. Fee 1, ne ne nw 14-14n-13e	¶1.7	1818
Ladd, Corbray 1A, ne sw sw 23-14n-14e	15	1025
OSAGE COUNTY—		
Midco Oil Corp., 2A, se sw ne 18-22n-10e	50	1978
Link Oil Co., 2, ne ne sw 5-22n-12e	*	2307
Pure-Sinclair Prairie, 176, sw ne ne 5-23n-8e	52	2395
North Avant Unit, 51, se se nw 31 24n-12e	16	1736
North Avant Unit, 25, se nw se 31-24n-12e	18	1714
H. C. Zelner, 4, se nw sw 26-27n-11e	4	1064
PITTSBURGH COUNTY—		
Utilities Prod., Webster 1, ne ne ne 18-7n-18e	*	2310
PONTOTOC COUNTY—		
Stahl, Dennis 4C, se sw sw 21-2n-7e	2224	3810
Fleetborn & Simpson, Newell 1, nw nw ne 26-2n-7e	*	3520
Kerlyn, Pratt 1, sw se nw 6-4n-4e	*	2355
Delaney, Norris 1, nw nw se 18-4n-8e	¶1.2	815
POTTAWATOMIE COUNTY—		
Indian States, Goodman 1, ne nw ne 5-10n-4e	189	4430
SEMINOLE COUNTY—		
Manahan, Williams 2, se sw ne 22-6n-6e	120	2337
Curtiss-Williams, Sasakwa 1, s ne se 30-6n-8e	*	1300
Malernee & Shelton, Huddleston 1, ne sw ne 32-7n-6e	210	2985
Pittsburg P & S, Joseph 1, se sw nw 20-7n-8e	40	2930
Sinclair Prairie, Harjo 6, se sw se 31-8n-8e	20	2915
Carter, Campbell 1, nw nw sw 20-19n-6e (otd 4239)	35	4248
Deep Rock-Atlantic, Coody 3, se se sw 9-9n-7e (pb 3441)	25	3483
R. S. Hays et al, Belford 1, ne se ne 9-9n-8e	*	4597
Atlantic, West Telghman 1, se nw nw 2-10n-5e	385	4663
Sinclair Prairie, Yahola 1, sw sw nw 28-10n-8e	125	4245
STEPHENS COUNTY—		
Texas, J. C. Graham 1, sw sw sw 12-1n-5w	¶8	3874
TULSA COUNTY—		
Klingensmith, Mount 1A, sw se se 2-16n-12e	*	2440

*Failures; †Junked; ¶Million cu. ft. gas.

KANSAS FIELDS

New fields found in Sedgwick and Rice Counties.

* * *

Ellis and Stafford wildcats are showing oil.

* * *

Barton, Russell and Ellis County fields extended.

Wichita.—Sedgwick County added another gas producing area last week, by far the largest there. Production was from the Stalnaker sand, the first commercial production from the formation for the county. Four miles east of Hays, in Ellis County, a new producing area looks to be opening, and the same was true of a test in Stafford County where interesting shows were had in the Lansing lime. Extensions were numerous, being reported from Barton, Russell and Ellis counties. A new Kansas City lime producing sector was opened 1 mile east of the Chase pool in Rice County. A wildcat test for Ford County, devoid of production to date, and recent developments in the newly opened Tenny pool of Ness County wound up operations for the week.

Largest Sedgwick Gas Well

Efforts to shut off gas leakage were successful at Ralph Talbott et al's Downs Estate 1, SEc NW 32-28s-2e, 2 miles northeast of Derby in Sedgwick County, and the well gauged 3,800,000 cubic feet of gas, making it the largest gasser in the county. It also is the first test to produce from the Stalnaker sand in commercial quantities. It is at 2229 feet. When first gauged, the well made 14,000,000 cubic feet of gas, but the volume dropped when it became necessary to kill the well temporarily. Five-inch packer was set to shut off leaks in the casing, following which the last gauge was taken.

A good show of free oil in the Siliceous lime indicated a new producing area for Ellis County last week. The test was Glimac Oil Company and Brunson Drilling Company's Weisner 1, SE SW SE 31-13s-17w, a wildcat, 4 miles east of Hays. Operators were preparing to drill in with standard tools after finding the oil at 3590 feet in the lime. Top of the lime was at 3565 feet. Nearest production is in the Victoria pool, 4 miles southeast.

In Stafford County, a well which is being watched as another possible pool opener is Kessler & Their, Inc., and I. E. Bradley & Sons' W. R. Jenkins 1, SEc NE 15-25s-12w. It will be drilled to the Siliceous lime, although slight saturation was found in a core from the Lansing lime. Top of the Lansing lime was found at 3545 feet. The core, with a 7-foot recovery, came from between 3718 and 3726 feet. It is 6 miles south of Stafford.

Extension of the Ainsworth pool of Barton County ½ mile east was reported as Stanolind Oil & Gas Company's Thorne 1, SWc SE 27-16s-13w, swabbed 30 barrels of oil an hour from the Siliceous lime at 3397 feet after filling up 1800 feet with oil. Treated with 2000 gallons of acid, the well established a potential of 1733 barrels of oil.

C. E. W. Skiles and Hinerman's Campbell 1, SEc NE 28-19s-9w, 1 mile east of the Chase pool of Rice County, had 2000 feet of oil in the hole at 2956 feet, opening a new Kansas City lime producing area. It was shut in, due to heavy gas flow, but was preparing to test. Cavings were cleaned out and 6-inch casing run. The Chase pool is a Siliceous lime area, producing from below 3000 feet.

The Coralena pool of Russell County was extended one location northeast by Skelly Oil Company's Rein 3, SE NE SW 8-15s-13w, which filled 2500 feet with oil in 20 minutes and forced tools 65 feet up the hole. Tubing was being run for a test. Production is from the Siliceous lime, topped at 3169 feet and drilled to 3172 feet.

Shutts Extension

McPherson Drilling Company's Bemis 1, SEc SW 33-11s-17w, extended the Shutts pool of Ellis County ¾ mile northeast, flowing 50 barrels of oil an hour following acidization in the Siliceous lime at 3613 feet. Tubing was being run for a test.

A wildcat with a 6000-foot contract depth is beginning operations 18 miles east of Dodge City in Ford County, southwestern Kansas. The test will be Rickard, Naden & Hough's Fowler 1, SWc 26-27s-22w. The contract was let to Olson Drilling Company, and drilling was scheduled to start by October 1.

Recent development has been reported from the Tenny pool of Ness County, opened by Newton Development Company et al's Tenny 1, NWc SE 19-18s-25w, which has remained shut down at 4406 feet since it found production in the Mississippi lime several months ago. The latest to find production there is Oriental Oil Company's Shiner 1, SWc NE 19-18s-25w, a southwest offset to the discovery well. Saturation was found in a core from the Mississippi lime below 4378 feet.

Barton County was one of the most

active in the state last week. Acid will be used in Sinclair Prairie Oil Company's Hoffman 1, SEc NE 7-16s-13w, north offset to the discovery producer in the Barton County extension of the Trapp pool of Russell County. On a pumping test the well made 400 barrels of oil natural in 15 hours from the Siliceous lime at 3377 feet. It will be given a potential test following acid treatment. After drilling the plug at the total depth, the well filled 1000 feet with oil in 12 hours.

Potential was completed last week on Tom Johnson's Henry Bitter 1, NWc SW 8-16s-13w, east offset to the discovery producer in the Trapp extension. The well averaged 60 barrels of oil per hour during the first four hours of an 8-hour test, making it good for an estimated 1400 barrels of oil daily. Production is from Siliceous lime at 3370 feet.

Shell Petroleum Corporation's Krautwurst 1, SE NE NW 10-17s-11w, west offset to the discovery producer in the Kraft pool, was completed for a potential of 2205 barrels of oil from the Siliceous lime at 3304 feet. The flow was natural.

A disappointment for the county was Vickers Petroleum Company's Lucas 1, NWc NE 16-17s-14w, southwest of production in the Ainsworth pool. It topped the Siliceous lime at 3457 feet, drilled to 3482 feet and had a hole full of water.

In the Vaughn area of Russell County, National Refining Company's Reinhardt "D" 2, NEc 19-14s-14w, was completed for 1611 barrels of oil natural, production coming from the Oswald lime at 3075 feet. East of the new producer, the discovery well was completed for only 1439 barrels of oil in a flowing test. It also found the Lansing lime higher than any other test in the county. National Refining Company is building rig for Reinhardt "D" 3, SE NE NE 19-14s-14w, a south offset to the No. 2 well.

The Texas Company's Brandenburg 3, SW NW NW 20-14s-14w, in the same pool, was completed for a potential of 1912 barrels of oil at 3020 feet in the Oswald. Top of the formation was 2998 feet. It was acidized with 3000 gallons. Cities Service Oil Company, which holds the 160 acres to the north, has made location for Brandenburg 3, NWc SW 16-14s-14w.

Production at an old producer in Butler County was stepped up after it was deepened from 3174 to 3181 feet in the Wilcox sand. Originally completed in 1936, the well, National Refining Company's McCullough 1, NEc SW 1-28s-6w, discovery producer in the McCullough pool, made an initial production of 108 barrels of oil. When deepened it made approximately 400 barrels of oil, filling to the top. No water was showing with the oil.

East offset to the discovery producer, McCullough 2, made 495 barrels of oil initially, but was deepened at the time of completion. Rigging up has started McCullough 3, SEc NE 1-28s-6w.

Third producer for the Layton sand in the area north of the Werner gas pool of Cowley County was The Texas Company's Cranston 1, Section 10-32s-6e. At 2242 feet, the well was shot with 80 quarts and pumped 204 barrels of oil and 129 barrels of water in 24 hours.

Another wildcat, Buffalo Oil Company's Phillips 1, NEc 18-14s-16w, 3½ miles southeast of Victoria in Ellis County had water at 3460 feet in the Siliceous lime. It may be plugged to test in the Kansas City lime, which had a small show.

Five miles northwest of production in the Stoltenberg pool of Ellsworth County, Equity Gas Company's Razac 1, NEc SE 31-15s-10w, was abandoned at 3270 feet in the Siliceous lime, topped at 3253 feet. The formation yielded only water from 3264 to 3265 feet.

Stanolind Oil & Gas Company's Moore 3, NE SE SE 8-26s-4w, was completed for 1574 barrels of oil from the Viola lime at 4024 feet following acidization. Potential was taken through 3-inch tubing. The test is on the west side of the Hilger pool of Reno County.

Barbara Oil Company's Holmes "A" 2, CSL SE 15-33s-13e, in the Medicine Lodge area of Barber County, found gas production in the Mississippi lime after plugging back from 4912 to 4565 feet and perforating casing. It was showing for 6,000,000 cubic feet of gas.

Kansas Wildcats Open 21 Fields First Half of 1937

FOR the first half of 1937, wildcat drilling in Kansas maintained the pace of the two years previous. The status of exploration at the end of the period indicated that the last half of the year would be equally as active in wildcatting.

From January 1 through June, stakes were driven for 131 wildcat wells in 35 counties. The completion total for the corresponding period was 172. This excess of completions over starts came about through completion of wells started prior to the beginning of the year.

Twenty-One New Fields

Out of this drilling the state drew 21 oil wells, currently classed as new fields. Later development may prove some of these to be only extensions to other fields. There were four gas wells in the completion list, leaving 147 dry holes for six months of wildcat drilling. Abandoned locations totaled 11.

The ratio of oil wells to dry holes was 1 out of 7, a figure characteristic of the state, since its wildcatting campaign moved to the western area and the search for porous spots, chiefly in the lime formations, had its stimulus three years ago.

The tabulation herewith shows that activity in wildcatting was in 43 counties, although only 35 drew locations. There were either completions or abandoned locations in eight other counties. Preference for the western half of the state is revealed by the fact that 34 counties in this area drew wildcat activity, while but nine counties of the older oil producing area to the east were favored by wildcatting. The nine eastern counties drew 30 of the locations, provided 51 completions, from which came 6 producing oil wells, 2 gas wells and 43 dry holes. The eastern counties had 2 abandoned locations.

Siliceous Favored

Favorite formation for the tests, especially in western Kansas, was the Siliceous lime. This member of the Cambro-Ordovician system is responsible for the 226,000,000 barrels of reserves calculated for western Kansas as of January 1, 1937. Limes within the beds of Pennsylvanian age are also oil productive in western Kansas, but in structures and porosity they are not equal to the deeper Siliceous. The Siliceous lime has its eastern outcrop in Missouri. It yielded prolific production in the old El Dorado area of Butler County, as at that point it was found at comparatively shallow depth on account of a buried mountain range. Then to the west it dips abruptly and begins another trend toward the surface. Its productive spots in western

Record of Wildcat Activity in Kansas for First Six Months of 1937

COUNTY	No. Locations Made	Total Completions	No. Oil Wells	No. Gas Wells	No. Dry Holes	Locations Abd.
Barber	2	3	1	..	2	1
Barton	9	18	3	..	15	3
Butler	2	8	2	..	6	1
Chase	2	1	..	..	1	..
Chautauqua	4	8	1	1	6	..
Cowley	10	12	1	..	11	..
Decatur	..	..	..	..	..	1
Edwards	1	2	..	..	2	..
Elk	2	2	..	..	2	..
Ellis	14	14	3	..	11	..
Ellsworth	2	2	..	..	2	..
Finney	..	2	..	..	2	..
Grant	2	1	1	..	..	..
Greenwood	2	10	2	..	8	..
Hamilton	1	..	..	..	..	..
Harper	1	1	..	..	1	..
Harvey	3	3	..	..	3	..
Haskell	..	1	..	1	..	..
Kearney	1	..	..	..	..	..
Kingman	..	2	..	1	1	..
Kiowa	1	..	..	..	..	..
Lane	..	1	..	..	1	..
Logan	..	1	..	..	1	..
Lyon	2	1	..	..	1	..
Marion	2	..	..	..	..	..
McPherson	6	3	..	..	3	..
Meade	..	..	..	..	..	1
Ness	2	..	..	..	..	..
Osborne	2	1	..	..	1	..
Pawnee	1	2	..	..	2	..
Pratt	2	..	..	..	..	..
Reno	6	13	1	..	12	2
Rice	11	15	2	..	13	2
Rooks	5	4	1	..	3	..
Rush	3	2	1	..	1	..
Russell	6	5	..	..	5	..
Saline	..	2	..	..	2	..
Sedgwick	7	3	..	..	3	..
Sheridan	..	1	..	..	1	..
Stafford	5	5	1	..	4	..
Stevens	1	..	..	..	..	..
Sumner	4	12	1	..	11	..
Trego	3	2	..	..	2	..
Woodson	4	9	..	1	8	..
*Totals	131	172	21	4	147	11

* Total of completions exceeds total wells started, as completions considered include those for the period, some of which were started the latter part of 1936. Abandoned locations are not counted with the total of wells completed.

Kansas have been influenced by the Barton arch, the regional folding condition of central Kansas. Generally it has given fields of limited size with yields of as high as 12,000 barrels to the acre.

Another geological characteristic of the area is the absence of beds of the Mississippi age over a large part of the state. In these spots the drill passes from the bottom of the Pennsylvanian rocks into the Ordovician system. In such places prospecting is denied possibilities from the Mississippi chat, which does not yield prolific production in some instances, and its output is gained from flowing wells, while the limes, both of Pennsylvania and Ordovician ages, seldom flow.

The counties which drew the major part of the wildcatting campaign of the first half of the year were Barton, Ellis, Rice and Reno.

The record for Barton County was 9 wildcats started, 18 completed, 3 oil wells, 15 dry holes, and 3 abandoned locations. Half its completions for the period came from wells started prior to the first of the year. Previous to 1937, the county had 16 oil fields. The Siliceous lime is the oil source for 11 of these, the Kansas City lime is the source of production in 2, while the Conglomerate at the base of the Pennsylvania system is responsible for 3 fields. Identification of the oil source for the three fields indicated for the first half of this year is not complete, but depths indicate that the Siliceous lime is the source.

In Ellis County locations and completions came to even balance for the first half of 1937, 14 in each column. Three oil wells came out of this drilling, and 11 dry holes. Previously it had 16 oil fields, of which Bemis stands at the forefront. The Topeka, Oswald and Kansas City limes and the Conglomerate, all of Pennsylvanian age, are sources of oil for 10 of the existing fields, while the Siliceous lime accounts for 6.

Rice County drilling for the period accounted for 11 locations, 15 completions, 1 oil well, 12 dry holes, and 2 abandoned locations. This county previously had 26 oil fields. Part of its area is favored by presence of the Mississippi system, and the chat is responsible for four of these fields. The Kansas City lime and the Conglomerate of the Pennsylvanian account for 5 fields, while the Siliceous lime has 17 of these fields to its credit.

While Reno County drew but 6 locations, it had 13 completions. Luck ran against the drill there, as only 1 oil well was completed. One of the six fields previously discovered in this county is the prolific Burrton pool, discovered in 1931, and producing from the Mississippi chat, the Hunton lime and the Siliceous lime.

Some in East Part

One of the striking developments of the period was the swing of wildcatting back into the older eastern counties, where oil production has been established over a long period.

Cowley County, for instance, which had 51 oil and gas fields to its credit period to 1937 drew 10 locations the first half of this year and had 12 wildcats completed. One producing well and 11 dry holes balanced its completion record. It has been oil productive since 1926 when the Rainbow Bend field was discovered.

Butler County drew 2 locations but had 8 completions. It registered two successful wildcats. Chatauqua County had 4 locations, 8 completions, 1 oil well and 1 gas well being its reward. Greenwood County had only 2 wells started, but its wildcat completion total was 10 and there were 2 oil wells in the list. Woodson County had 4 locations, with 9 completions, and accounted for the other producing well for the eastern area.

Wildcatting in the eastern counties is somewhat on a basis of searching for extensions of old fields. Drilling depths are comparatively shallow and machines are sufficient to reach the sand depths. In both depth and producing sands this part of Kansas is similar to the northeastern counties of Oklahoma.

15 West Kansas Fields

In discoveries the first half of 1937 is on the heels of 1936, when western Kansas alone had 46. Its record for the first half of 1937 is 15 discoveries. Since July 1, however, both showings and completions of wildcats have been sufficient to indicate that the second six months of the year will match the first six months with possibilities of exceeding the period under consideration. The campaign for uncovering additional reserves continues to push westward. The number of these outpost wells is not large, but it is significant that the Siliceous lime is to be tested for the whole of the state.

Most wildcat locations for western Kansas, however, are confined to the counties which already have production. Often the locations are but short distances from production. Some of them are for the purpose of determining possible linkage of existing pools.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Stanolind, Riemann 4, nw nw nw 34-16s-13w	1944	3395
Cities Service, Hogan 1, nw se nw 11-17s-11w	603	3361
Lathrop 28, sw sw nw 17-23s-4e	366	2084
CHAUTAUQUA COUNTY—		
Sinclair Prairie, Casement 49, cn½ s½ se 32-33s-11e	¶75	1890
Robinson et al, Foster 1, sw sw sw 6-33s-12e	15	1986
COWLEY COUNTY—		
Shawver, Fee 1, nw ne se 3-30s-4e	96	2828
Loyd-Frost & Study, Monforte 2, sw sw se 33-31s-3e	2418	3254
E. A. Wakefield, Ira Wilson 1, ne ne nw 4-32s-3e	720	2554
Pryor-Lockhart-Johnson et al, Schwantz 1, sw sw ne 16-33s-3e	*	3217
Shawver, Baruth 2, nw nw ne 8-34s-3e	156	3316
ELLIS COUNTY—		
Cities Service, Johansen 3, sw nw se 22-11s-17w	2203	3460
Magnolia, Johansen 3, sw sw nw 22-11s-17w	2520	3422
Deep Rock, Baumer 17, sw nw ne 27-11s-17w	2875	3481
York State, Bemis 4, nw nw sw 28-11s-17w	1030	3510
Lario, Marshall 6, ne se se 36-11s-18w	2248	3630
Billings, Smith 1, se se nw 14-12s-16w	572	3385
Carter, Koerner 2, ne nw se 11-12s-18w	1100	3679
I. T. I. O., Staab 1, se sw nw 11-12s-18w	1496	3669

Kansas gets 51 new locations past week

Wichita.—While drilling crews were completing 54 wells in Kansas last week stakes were driven for 51 new tests. The completion list included 39 oil wells with initial output of 49,751 barrels, 5 gas wells, and 10 dry holes. Barton County led in new locations with 11. There were 9 in Rice County, 8 in Russell County, 6 in Ellis County, 4 in Cowley County, 3 each in Sedgwick and Stafford counties, 2 in Stevens County, 1 each in Barger, Chautauqua, McPherson, Reno and Rooks counties.

Company, Well and Location	Init. Prod. Bbls.	Depth
ELK COUNTY—		
Armer et al, Julian 1, sw se ne 35-31s-10e (pb 2040)	*	2310
H. C. Tyrill, J. C. Way 1, sw sw sw 12-31s-9e	50	2335
Elmwood Oil Co., Hawks 3, se se se 15-30s-10e	*	2010
Coronodo Oil Corp., Atkinson 1, sw ne sw 22-29s-10e	*	1400
ELLSWORTH COUNTY—		
Transwestern, Stump 1, sw sw sw 33-17s-10w	504	3267
GRANT COUNTY—		
Columbian Fuel, Smith 1, c se 35-28s-36w	¶5	3760
Hickock 1, csw 9-29s-36w	¶5.5	2731
United Prod., Blake 1, cnw 21-30s-36w (pb 2570)	¶2.3	2751
HARVEY COUNTY—		
Olson & Lario, Murphy 2, nw sw se 30-23s-3w	544	3362
Olson Drlg. Co., Schrag Jr. 3, se se sw 30-23s-3w	1065	3360
MARION COUNTY—		
Hutchinson O&G, Ehrmann 1, se se sw 15-18s-1e	*	3430
RENO COUNTY—		
Olson Drlg. Co., Fast 6, se se nw 5-23s-4w	*	3392
RICE COUNTY—		
Continental et al, A. H. Johnson 1, ne se sw 12-18s-8w	1859	3243
J. R. Lansing 3, sw ne sw 25-18s-8w	1861	3226
Torry & Feaster, Rose 2, sw sw se 32-19s-9w (pb 3250)	*	3257
Carter, Risse 4, sw 33-19s-10w	1645	3310
Cities Service, Coldwater "B" 3, nw nw nw 17-20s-9w	1592	3295
Eldorado Ref. Co., L. Gossman 2, nw ne sw 5-21s-7w	418	3351
H. V. Holland et al, Brothers 1, se se se 12-21s-7w	627	3476
ROOKS COUNTY—		
Leavell, Boxa 2, se se nw 12-9s-17w	794	3355
RUSSELL COUNTY—		
Conutinental, Letsch 1, nw nw sw 26-14s-13w	1029	2943
R. H. Shields et al, J. Letsch 2, nw ne se 27-14s-13w	2891	2860
Cities Service, Vaughn 4, sw nw sw 17-14s-14w	1562	3065
Phillips, Carroll 3, se ne se 18-14s-14w	2339	3045
Empire, Stecker "A" 5, sw sw ne 35-14s-14w	*	3280
Phillips, Michel 1, sw se nw 36-14s-14w	268	2945
Polcyn, Fee 1, ne sw se 10-14s-15w	1101	3262
Continental, Neharg 2, ne nw ne 17-15s-13w	1134	3315
Sinclair Prairie, E. G. Berrick 2, se sw se 23-15s-13w (pb 3257)	*	3283
Cities Service, Boomhauer 9, sw ne ne 25-15s-14w	1562	3322
Darby, Michaelis 4, se se se 36-15s-14w	2250	3285
Texas, D. Brandenburg, ne nw nw 20-14s-14w	1912	3020
STAFFORD COUNTY—		
Terry & Feaster, Sittner 1, ne ne ne 33-21s-12w	1408	3410
Stanolind et al, M. Hartnett 1, nw nw se 23-24s-11w	974	3807
Skelly & T. T. Co., Kipp 1, sw sw se 23-25s-14w	*	3811
STEVENS COUNTY—		
United Prod., Simon Winter 1, cnw¼ 13-31s-25w	¶3.8	2751

*Failures; †Junked; ¶Million cu. ft. gas.

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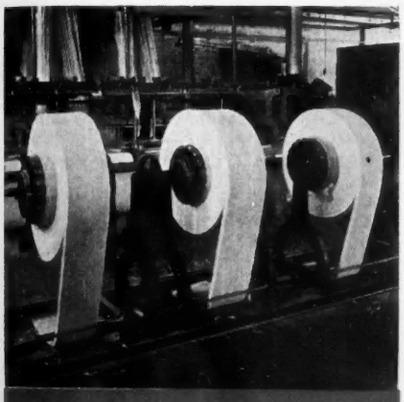

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NORTH AND WEST TEXAS

Duggan outpost test swabbing some oil.

* * *

Well 2½ miles southeast of Slaughter flows.

* * *

Pumper completed 4 miles west of Albaugh field.

Midland, Texas.—The new fields and the promising wildcat areas north of here, in the upper portion of the Permian Basin, continue to claim the lion's share of attention in West Texas drilling, although the older and better established areas south and west of here still are contributing the bulk of completions and production of the district.

Current activity in the north portion of the basin involves work on early wells of several new fields, including the Duggan area, Cochran County, most northerly producing field of the district; the Slaughter area, Hockley County; the Albaugh area, northwestern Dawson County; and the farther-advanced Wasson field, Yoakum and Gaines counties.

Meanwhile, interesting wildcats are being drilled in other areas of these and adjoining counties, including Terry, Andrews and Martin counties.

Duggan Extension Swabbing

Wiggins & Hyde's Dean-Slaughter 1, seeking to provide a 4-mile northwest extension of the Duggan field, Cochran County, and promising to become the third well of the county, still had not been completed late last week. Swabbing through tubing, it was reported to be yielding acid water and a little oil, after treatment first with 1500 gallons of acid and then 3000 gallons. The well filled 1500 feet with 27 gravity oil from porous lime at 5004-5025 feet before it was deepened to 5033 feet and given the acid treatments.

Farther to the northwest of the Duggan pool, and 8 miles beyond the Wiggins & Hyde extension test, The Texas Company is drilling in lime at 4895 feet in C. C. Slaughter 1, Cochran County wildcat on a 7000-acre block. The well, in League 130, Carson County School Lands Survey, had a rainbow oil show at 4731 feet, a slight gas show at 4740 feet, and a slight oil show at 4852 feet.

Wiggins & Hyde's Dean 1-A, 4½ miles northeast of the Duggan pool and in Cochran County, is drilling in lime below 4300 feet.

New Well in Slaughter Area

In the Slaughter area, southeast of the Duggan pool and in southwestern Hockley County, Stanolind Oil & Gas Company has completed Alex Slaughter 1 as the second oil well of the area and of the county. The well flowed 432 barrels in the first 24 hours through ¾-inch choke on the tubing. Bottom of the hole is at 4975 feet in lime. The flow of oil followed acid treatment and shooting.

The Stanolind well is about 2½ miles southeast of The Texas Company's Bob Slaughter 1, Hockley County discovery well, which initially flowed 502 barrels in 24 hours after being treated with acid.

Location of Stanolind's producer is at the center of the southwest quarter of Labor 76, League 37, Zavalla County School Lands Survey, and the surface elevation is 3518 feet. The well encountered top of anhydrite at 2220 feet, top of Yates at 2821 feet, and top of lime at 4150 feet.

Albaugh Area Well Pumping

E. L. Wilson and associates at the middle of the past week were pulling rods in Scanlan 1, Dawson County's second oil well, located 4 miles west of the one-well Albaugh pool. When put on the pump, the well produced 75 barrels of oil and 8 barrels of water in 24 hours, but in the following 24 hours it pumped 50 barrels of oil and 21 barrels of water. The well was drilled to 4965 feet, but later it was plugged back to 4933 feet and treated with acid.

Following the favorable showing of the E. L. Wilson well, it has been reported that Stanolind Oil & Gas Company contemplates early drilling of its Cedar Lake block across the county line in northeastern Gaines County, about 5 miles southwest of the Wilson pumper.

Seminole Well Near Completion

Ohio Oil Company's Averitt 1, west offset to the discovery well of the Seminole field, Gaines County, and prospective third oil well for the area, last week was waiting on cement to set after 7-inch casing had been cemented at 4765 feet.

No completions have resulted in the past week from efforts to extend the Wasson field of northern Gaines and southern Yoakum counties. Phillips Petroleum Company's Brand 1, about 1½ miles northwest of Wasson production, considered capable of yielding small commercial production, has plugged back slightly from the original depth of 5031 feet and late in the week was testing.

The Texas Company's Walker 1, about 3½ miles west of production in the Yoakum County section of the Wasson field, also expected to develop into a small producer, was being prepared late last week for acid treatment, after having been plugged back from 5180 to 5162 feet and subsequently shot with 200 quarts at 5010-5095 feet. Before it was plugged back, the well yielded 36 barrels of oil in 24 hours by swabbing.

In the southern portion of the Permian Basin, Winkler and Ector counties continue to lead in drilling, with Kermit the most active field in Winkler County, and Goldsmith in Ector. Other counties of that district that furnished completions last week included Crane, Howard, Mitchell, Pecos and Ward.

Little wildcatting in the Texas Panhandle

Pampa, Texas.—Although some wildcatting is under way in the Texas Panhandle, a considerable number of the wildcats currently are shut down, and progress in drilling is confined largely to the proved areas.

The district in the past week furnished 15 completions, of which 13 were oil wells and 2 gas wells. Hutchinson County accounted for 8 of the completions, Gray County 6, and Moore County 1.

The Deaf Smith County wildcat, Western Union's Farwell 1, Section 18-3n-2e, is among the active tests, drilling below 5540 feet.

A rig has been moved to the site of the Hartley County test, Canadian River Oil Company's Bivins 22-A, Section 13, Block 2.

Bailing was in progress on the Hansford County wildcat, Texas Mineral Investment Company's Norton 1, Section 123, Block 2, which is 2860 feet deep.

Pipe is stuck at 2350 feet in the Roberts County wildcat, Whitlock et al's Cunningham 1, Section 74, Block M-2.

Thirty-six new tests started in North Texas

Wichita Falls, Texas.—The active campaign of drilling currently in progress in North Texas is attested by the fact the past week brought announcement of 36 new locations, about equally divided between wildcat and proved areas, while 31 tests were completed.

Jack and Young counties contributed several new oil wells each, while Wichita County also was among the counties furnishing new oil wells, by virtue of the active development of the new 3800 foot pay sand in the Kemp City pool in the southern part of the county, where about 15 tests are drilling.

Completions were reported also in Archer, Cooke, Denton, Montague, and Wilbarger counties.

Kemp City Area Active

About three miles northwest of the Kemp City field, E. J. Stump et al are drilling below 3360 feet in Waggoner Brothers 1, W. R. Eaves Survey. Meanwhile, Lebus Brothers' J. F. Miller 1, Eaves Survey, about ¾ mile northwest

of production, is drilling below 3550 feet. East of production about three miles Trintex Oil, Ltd., is drilling below 1250 feet in Alfred Burnside 1, J. M. Sharpe Survey, a 4000-foot project. South of Kemp City field about three miles and barely within Archer County, Hammon, Hanlon & Buchanan, Inc., are drilling below 3100 feet in their 4000-foot test, W. P. Ferguson 1.

Young County development continues to include active work in the James pool, while interest has been supplied by spudding of Burk Royalty Company et al's J. B. Miller 1, Block 20, A.T.N.C.L. Survey, projected 4000-foot test for deep production in the old Gose area.

Recent completions in Jack County have included good wells in the Bryson and Hammon pools.

The Wise County wildcat of Latex Company, Smith 1, near Bridgeport, last week was reported showing a small amount of gas and a rainbow of oil, while swabbing through tubing. Gas sand was encountered at 3952-3995 feet, casing is set at 3943 feet, and bottom of the hole is in shale at 4075 feet.

WEST TEXAS Completions

Company, Well, Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means)—		
Humble, R. M. Means 11	422	4540
ANDREWS COUNTY (Wildcat)—		
Amerada, Lydia Littman 1, sec 6 blk A-29, PSL sur	*	4777
CRANE COUNTY (McCamey)—		
San Bar Oil Co., Boeseke-Hughes 2	895	2086
ECTOR COUNTY (Foster)—		
Barnsdall, Frank Foster 2	476	4183
Frank Foster 3	500	4190
Sun, Kelly 1	600	4346
ECTOR COUNTY (Goldsmith)—		
American-Maracaibo, Scharbauer 6-A	846	4221
Atlantic, TXL-Rumsey 5-A	1213	4266
Rumsey 8-A	1014	4270
Rumsey 2-C	396	4280
Devonian Oil Co., Scharbauer 4-D	871	4196
Scharbauer 1-E	382	4222
W. H. Dunning, Jr., Scharbauer 7-A	2190	4225
Landreth Prod. Co., Scharbauer 8-G	1568	4213
Shasta Oil Co., Scharbauer 3-A	1208	4230
Shell, Cummins 2-B	157	4265
ECTOR COUNTY (Harper)—		
Broderick & Calvert, E. F. Cowden 1-C	1313	4290
ECTOR COUNTY (North Cowden)—		
Stanolind, J. M. Cowden 56	959	4292
J. M. Cowden 57	1147	4288
FISHER COUNTY (Rotan)—		
Lewis Prod. Co., Morrow 2	4400	3543
Magnolia, Ella Smith 1	862	3500
Tide Water - Merry Bros., B. A. Waddell 1	732	3502
GAINES COUNTY (Wasson)—		
Amerada, Cox Est. 1	668	4952
Samuel Smith 1, sec 382, blk G..	*	3187
Phillips, Carter-Wasson et al 1	1007	4980
GAINES COUNTY (Wildcat)—		
Continental, Jones 1, sec 22, blk A-7, PSL sur 9 mi sw Wasson field, had gas show and salt water in lime when pb to 4683 ft	*	5156
HOWARD COUNTY—		
Continental, Overton 10, pb to 2477 ft	1377	2495
Settles 16-A	1292	2545
Iron Mountain, D. H. Snyder 1	566	2900
Sinclair-Prairie, Percy Jones 4	386	2910
JONES COUNTY—		
Bridwell Oil Co., Jennings 9	124	2053
Brown Eagle Oil Co. et al, Guitar Trust 2	630	2001
Iron Mountain Oil Co., Haterius 1	4800	3245
N. H. Martin & Son, Dorsey Est. 11-A	6277	2166
Sinclair - Prairie, Bertha King 8-B, owdd	128	2213
Ungren & Frazier, G. W. Harvey 1 hfw	*	2192
MITCHELL COUNTY (Wildcat)—		
Harris & Anderson, A. F. King 1, sec 11, blk 28, Twp 1s, T&P sur, 1½ mi sw Westbrook	*	3205
PECOS COUNTY (Taylor-Link)—		
B. C. Mann, University 1-A	109	980
PECOS COUNTY (Toborg)—		
Stanolind, Tippett 18-A	39	486
PECOS COUNTY (Yates)—		
Humble, Smith 15-A	70	1679
UPTON COUNTY (McCamey)—		
Cardinal Oil Co., Shirk 4	653	2230
Cordova-Union, Fee 1-A	127	2088
Jno. W. Emch, Lyon Est. 3	795	2248
Bert Fields et al, Anna Gibbs 13	790	2315
T. P. Coal & Oil, Reese 9	422	2603
WARD COUNTY—		
Atlantic & Stanolind, University 6-B	970	2270
Little Kanawah Prod. Co., Carruthers 2	132	2317
A. E. Lynch, Himmel 5-A	279	2550
C. R. Mahres, Pat Wilson 1	133	5089
Stanolind, Weiss 4	40	2394
Sun, Johnson 2	1400	2600

Rotan and Avoca are active areas

Abilene, Texas. — Two new fields, Rotan in Fisher County and Avoca in Jones County, continue to furnish the most interesting developments in West Central Texas.

The Rotan field, northwestern Fisher County, now has seven completed oil wells, following two recent completions.

Magnolia Petroleum Company has completed its first well in the field, the Ella Smith 1, which extended production one location to the northeast. Treated with 1500 gallons of acid, the well flowed 42 gravity oil at the rate of 862 barrels daily from the porous Noodle Creek lime at 3500 feet.

The other new well at Rotan is Tide Water Associated Oil Company's Ernest Smith 2, south offset to No. 1. The new well, rated at 2700 barrels daily, flowed 1417 barrels of oil in 22 hours through 2-inch tubing.

Avoca Has Four Wells

The Avoca field, northeastern Jones County, has made a sufficiently favorable showing to induce Humble Pipe Line Company to proceed with plans for building a 4-inch pipe line from the area to the Humble system at the Bluff Creek field, western Shackelford County.

The Avoca field's fourth oil well, Iron Mountain Oil Company's Jones & Stassney 1, flowed 287 barrels in the first 30 minutes when tested. The well is an offset to the Avoca pool discovery well, and its depth is 3232 feet.

The Hawley and Guitar pools of Jones County, meanwhile, continue active, and each has furnished several new oil wells lately.

Company, Well and Location	Init. Prod. Bbls.	Depth
WINKLER COUNTY (Eaves)—		
Gulf, W. P. Edwards 2-A	232	3150
WINKLER COUNTY (Emperor)—		
Skelly, Halley 22	305	2880
WINKLER COUNTY (Halley)—		
Sun, Halley 9	2520	2867
WINKLER COUNTY (Kermit)—		
Atlantic & Collett, Hendrick 2-K	142	3050
Gulf, Clapp 14	243	3110
Daugherty 57	1012	3155
Daugherty 60	795	3020
Magnolia, J. B. Walton 96	698	2955
J. B. Walton 99	1011	2945
J. B. Walton 101	625	2490
Sun, Daugherty 7	375	2896
T. P. Coal & Oil, Daugherty 22	200	2949
Vaden 2	460	3025
WINKLER COUNTY (Leck)—		
Cities Service, Daugherty 7-E, sulphur water	*	3105
Skelly, Fred Leck 2-B	2092	3080
WINKLER COUNTY (Sealey)—		
Sinclair-Prairie, Sealey 2	194	3136

*Failures; †Junked; ¶Million cu. ft. gas.

West Texas is rewarding efforts of wildcatters

Midland.—West Texas continues as one of the outstanding districts of the United States in furnishing important developments in today's almost frantic search for new crude oil reserves.

The district is generously rewarding the efforts of operators and wildcatters, repeatedly responding to exploratory drilling by supplying new fields and extensions to established fields.

To some extent this development is handicapped by the fact some of the new fields and prospects are widely removed from the older fields of the district. This fact not only makes drilling operations more difficult, but also gives rise to the problem of disposing of production when it is established. The pipe line systems have been extended into some of the new fields, but other producing or prospective productive areas remain to be provided with market outlets.

Within recent weeks plans have been revealed for construction of new pipe lines to connect with some of these new fields, and it appears probable that additional lines must and will be built.

Expect New Lines

It is to be assumed that any lack of pipe line outlets will prove only temporary, and that pipe line construction will keep fairly well in line with the field development.

The area that currently is furnishing the most important exploratory drilling activity is the great stretch of country, over 75 miles long, that extends northward from the northern line of Andrews County. The latter county itself is comparatively new as an oil producing county, and the success that was obtained in opening several fields in that county gave the original incentive for efforts to push the trend of production farther north.

By now this following of the trend northward has resulted in a north-south line of new fields, adjacent to and paralleling the Texas-New Mexico state line.

Northward beyond the Andrews County border are new fields in Gaines County, Yoakum County and Cochran County, discoveries having extended through three counties.

Laps Over Into Other Counties

Meanwhile, the exploration has lapped over into the tier of counties immediately east of the above named counties. Northward from Andrews, those counties farther east include: Dawson, Terry, and Hockley. And the development toward the east already has met with encouragement, having been rewarded with new producing areas in Dawson and Hockley Counties.

This development in the north portion of the Permian Basin undoubtedly will be stimulated if and when present plans for pipe line construction materialize. (See pipe line news).

While pipe lines are being planned for these several areas in West Texas, the older fields of the district continue to tax the existing pipe line systems that serve them, and also have filled most of the available steel storage of the region. For some weeks the fields have been crowding the pipe line and storage facilities, and the congestion has been relieved only to the extent

that the Texas Railroad Commission slightly lowered production allowables at the beginning of this month.

Prorating Purchases

Various purchasers of crude in the West Texas fields for several weeks have been obtaining more oil than they have wanted, under the existing production allowables, and proration of purchases has been threatened. Such proration finally has been actually resorted to, as Atlantic Crude Oil Purchasing Company, principal crude purchasers in Ward County, has announced that effective September 25 its crude purchases in that county will be reduced ratably from all leases approximately 36 percent. It is estimated that this action will reduce Ward County production about 7500 barrels daily, unless the producers can find other buyers. The company explained that for many months it had been purchasing crude oil in excess of its requirements as nominated to the Texas Railroad Commission from Ward County; that the company had continued the purchases, nevertheless, in the hope allowables eventually would conform with the company's requirements; but that the company finally has found it necessary to restrict purchases immediately. In addition to the Atlantic, other purchasers of Ward County crude include: Gulf Oil Corporation, Texas-New Mexico Pipe Line Company, and Wickett Refining Company.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Deep Oil Dev. Co., L. F. Wilson 24	508	2209
Fraser & Proctor, L. C. Garvey 2..	*	1518
Harrison & Lloyd, W. L. Jones 1..	*	858
Holbrook & Woods, J. S. Matlock 3	*	702
E. B. Madden, J. T. Richardson 4..	*	1170
Shappell Oil Co., Jno. Connor 1-B..	2	1099
COOKE COUNTY—		
Ripps & Ungerman, W. L. Johnson 1-A	12	1924
DENTON COUNTY—		
Wilcox O&G Co., D. W. Light 1....	*	2519
JACK COUNTY—		
Edwards, Knowles & Crespi, S. M. Jones 1	840	3098
G. M. Gillespie, Oliver Loving 1..	13	3211
Kerlyn Oil Co., J. D. Ventioner 1	*	3508
Mullendore, Berry & Berry, D. C. Clayton 5	503	3100
Ohio Fuel Supply Co., A. B. Kuykendall 2-A	232	2914
Producers Dev. Co., M. A. Sampley 1	*	2974
Royal Pet. Corp., J. A. Raley 3-A..	398	3218
MONTAGUE COUNTY—		
Raizen Bros., J. W. Maddox 14.....	10	678
WICHITA COUNTY—		
J. W. Akin et al, W. D. McClure 1	62	1956
A. E. Blair, W. B. Honaker 1.....	*	948
G. W. Cooper, W. T. Waggoner 28-C	240	1642
Mogren & Anderson, K. T. Goetze 1	5	1535
Petroleum Producers, First Nat. Bank 75-A	575	3855
Pois & Schulz, Foster & Allen 1-I	*	2000
Wilson & Ligon, Foster & Allen 2, owdd	50	1272
WILBARGER COUNTY—		
Phillips, J. D. Proctor (Bates) 9..	100	1957
Waggoner Ref. Co., Waggoner Est. 5-G	*	3134
YOUNG COUNTY—		
T. D. Humphrey, B. W. King 1...	528	3955
Pitzer, West & Lion O. R. Co., Norton Prop. 3	800	3897
Underwood Drlg. Co., W. L. Boyd 1	*	852
R. H. Vise, G. W. Norton Prop. 4	721	3960
Wise & Jackson, F. M. Cullers 17..	8	565
Wootten & Wilson, S. R. Jeffery 1	*	755

*Failures; †Junked; ¶Million cu. ft. gas.

EAST TEXAS

Drilling in big field still at high rate.

* * *

Trinity objective of wildcat explorations.

Tyler, Texas.—Although wildcatting in Eastern Texas currently is at a comparatively low level, with chief interest furnished by several deep tests exploring the Trinity, the district still maintains a high ranking in drilling activity, by virtue of continued aggressive development in the big East Texas field and Talco field, and further work at Cayuga, Long Lake, Sulphur Bluff, and other fields.

East Texas Field

In the East Texas field 85 drilling rigs are in operation, a slight decrease having occurred in recent weeks. The field in the past week furnished 55 completions, all but one having been oil wells, while the exception was a dry hole in the Longview district.

At the middle of last week the field allowable was 479,194 barrels daily from 23,582 wells.

Encouragement for further drilling was given when the Texas Railroad Commission last week in announcing October allowables permitted continuation of existing allowables in the East Texas field, whereas there had been some indication that recently declining pressures in the field might cause reduction of the field's allowable.

Talco field last week furnished 10 completions, all oil wells, including seven on the Titus County side and three in Franklin County. Sulphur Bluff field, Hopkins County, contributed one completion, an oil well.

The only other completions in Eastern Texas for the week were two wildcats. In Falls County, M. Hays et al's Hodges 1, N. K. Robinson Survey, five miles southwest of Lott, was abandoned at 1567 feet. In Rusk County, Nivla Oil Company's Citizens National Bank 1, M. D. Carmel Survey, 2½ miles southeast of Henderson, quit at 6802 feet.

Wildcats Test Trinity

Tests headed for the deep Trinity horizon continue to feature wildcatting in Eastern Texas. On the LaRue structure, Henderson County, American Liberty Oil Company and associates' Johnson 1, Block 11, Phillips Jackson Survey, is drilling lime and shale at 6112 feet.

The second Trinity test for the Opelika structure, Henderson County, Tide Water Associated Oil Company et al's McElreath-Suggett 2-C, W. P. Wyche Survey, is drilling below 9025 feet in sand and lime.

Operations continue, meanwhile, on two Trinity tests in Limestone County. Pure Oil Company's Kendrick 16-T, Mexia field, will resume drilling in shale at 7469 feet upon making crown block repairs. Stanolind Oil & Gas Company and Ramsey Petroleum Corporation are drilling Austin Chalk at 2930 feet in T. Norris 1, K. Thrasher Survey, Trinity test on the Thornton fault, five miles north of Kosse.

Humble Oil & Refining Company and Gulf Oil Corporation's E. D. Robertson 1, Trinity test in Gregg County, M. Mann Survey, four miles east of production in the East Texas field, is drilling Georgetown lime at 4260 feet.

Other Wildcats Drilling

In Bowie County, Woodley & Bentley's J. D. Lumpkin 1, John McDermott Survey, about 1¼ miles southwest of Dalby Springs, is drilling sandy lime at 5370 feet.

The Freestone County test of Holt, Young & Nanley, W. H. Chambers 1, W. D. Allison Survey, 2¾ miles north of Keechi is drilling shale at 5872 feet.

American Liberty Oil Company et al's J. A. Bean 2, William Burke Survey, one mile north of Grapeland, is drilling shale at 5545 feet.

In Morris County the Joiner Oil Corporation's Morris Sheppard 1, MEP & P Survey, three miles northwest of Naples, was reported to have gone into the Woodbine sand at 3707 feet. Elevation of the well is 315 feet.

Another Morris County test, Jim O.

TEXAS PANHANDLE

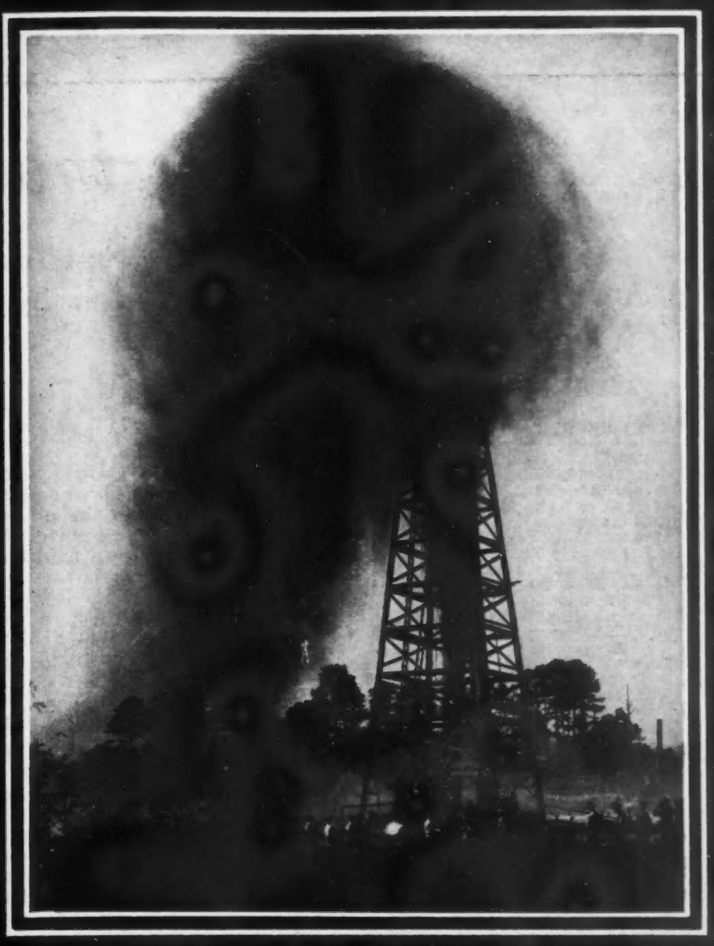
Completions

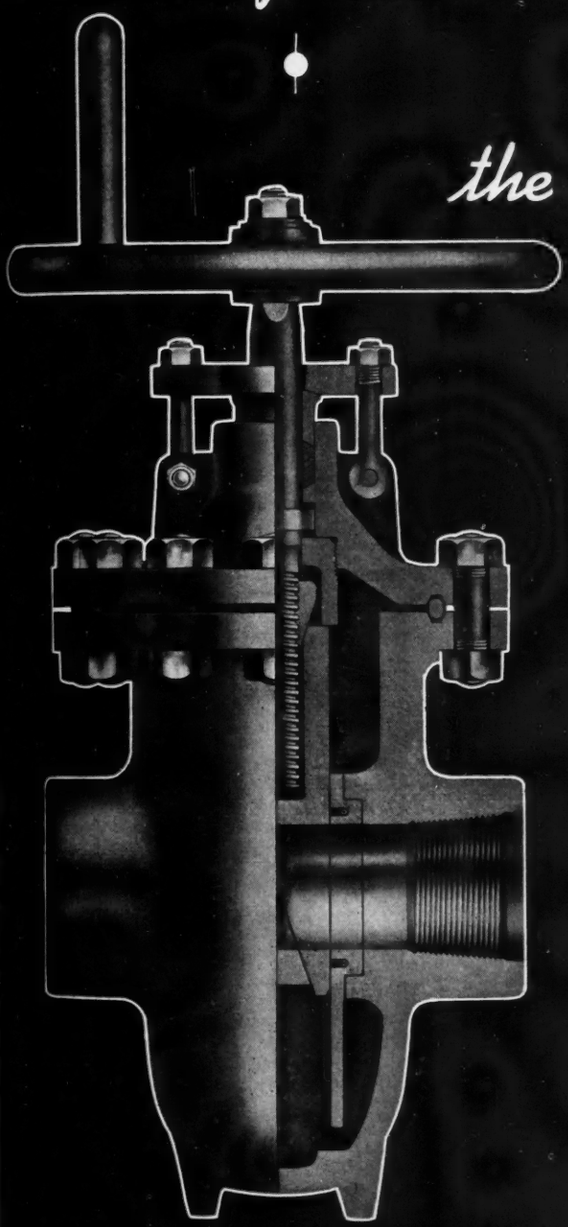
Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
F. W. Dye et al, Holmes 6, pumped	519	3256
I. T. I. O., Smith 10, pumped.....	900	3275
Kenawee O&G Co., B. McKinney 5, pumped	632	3260
Shamrock O&G Co., Big Bray Saunders 4, pumped	709	3135
Southern Pet. Exploration Co., Vaughn 8, pumped	491	3235
Tharp & Dawson, J. C. Short 4, pumped	647	3113
HUTCHINSON COUNTY—		
Gulf, Dial 73, pumped	377	3080
Phillips, Gary 1, pumped.....	222	3268
Shell-Sinclair-Prairie, Lucas 1.....	¶24	3345
Stanolind, Ware 8-A, pumped.....	253	3174
Watkins 12-A, pumped	267	2984
The Texas Co., Pond 10, pumped..	623	3090
Turman & Plains, Whittenburg 7-B, pumped	780	2835
Walero Oil Co., Haile 5, pumped..	180	3065
MOORE COUNTY—		
Phillips, Bush 1	¶35	3050

*Failures; †Junked; ¶Million cu. ft. gas.

GOOD FOR 25,000 BARRELS

But not so good for the cow pasture





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Whittington et al's C. D. Browne 1, T. C. Ry. Survey 734, eight miles northwest of Naples, has been shut down at 5100 feet and may be abandoned, as it has not offered encouragement.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EAST TEXAS FIELD (Joiner)—		
Atlantic, Ida Kinney 44	3000	3678
British American, Kangerga 15	4200	3594
G. B. R. Oil Co., Harmon 17	10,000	3750
Gulf, Cashen 15	5500	3795
Humble, J. R. Box 22	6000	3718
J. J. Pitner 10	7000	3693
J. H. Wooley 34	7500	3734
H. L. Hunt, D. Bradford 13-F	160	3603
R. W. Fair 34-C	12000	3630
Magnolia, Irion-Wright 42	12,000	3680
M. H. McMurrey, G. A. Turner 29	6500	3809
G. A. Turner 33	8000	3798
Sinclair-Prairie, J. B. Wilson 13	6000	3645
L. Sneed Oil Co., R. A. Harmon 1-B	9000	3649
J. B. Sneed et al, E. Rollins 1-A	5000	3682
Sells Pet. Co., J. B. Wilson 10	8000	3767
Sun, Henderson 1-B	27	3756
Texas Co., J. D. Stone 10	4800	3664
EAST TEXAS FIELD (Kilgore)—		
Abercrombie & Harrison, Brightwell 5-A	9500	3688
American Liberty, Weiss A-12	8500	3579
Hamill & Smith, Butts 1	6000	3568
Hastings & Dodson, Boatwright 2	1000	3541
Magnolia, Nat Bean 16	80	3610
W. B. Goyne 5 (30.53-ac)	10,000	3604
Sinclair-Prairie, Lockhart 25	3000	3608
Sun, Rollins 19	4200	3687
W. C. Turnbow, A. Clary 7	130	3563
EAST TEXAS FIELD (Longview)—		
Atlantic, W. P. Duncan 24	5000	3760
P. McGeorge 7	10,500	3590
W. R. Nickelson 15-A	4000	3734
Satterwhite 12-A	6500	3750
Collins, Gray & Wolfe, C. Fisher 13	6000	3440
D. B. Dean et al, Dalla Reeves 1	3750	3719
Deep Rock Oil Co., B. Jones 23	8000	3650
General American Oil Co., A. J. Sanders 4-C	3500	3659
C. G. & M. E. Glasscock, A. V. Bacle 1	12,000	3640
J. W. Harrison Trustee, O. F. Medlin 2	*	3780
Humble, E. W. Clements 12	5000	3616
A. L. Hughes 17	5000	3612
M. Wells 10	3800	3658
Joe Long Drilling Co., W. W. Owens A-25	3000	3570
Magnolia, C. Davis 13	10,200	3600
W. L. Fuller 6 (50-ac)	8000	3681
J. C. McKinley 9	10,000	3650
Todd-Stinchcomb 12	11,000	3575
Rudeo O. & G. Co., W. R. Nickelson 1	3500	3718
Stanolind, M. B. Harley 4-B	7000	3650
Geo. Jones 6	5400	3674
Stanolind-Continental-Tide Water, Flewellen 15-A	2700	3774
Sun, J. C. McKinley 15	6000	3631
F. Medlin 5 (53¾-ac)	20	3749
Tide Water, Lake Devernia 44	2600	3530
Tide Water-Stanolind-Russ, Flewellen 19	4500	3658
W. & R. Investment Co., Moore 3	5000	3579
Western States Co., W. Bouknight 5	6500	3657
FALLS COUNTY (Wildcat)—		
M. Hays et al, J. J. Hodges 1, N. K. Robinson sur, 5 mi sw Lott	*	1567
FRANKLIN COUNTY (Talco)—		
Humble, L. Wimms 3, pumped	338	4319
Magnolia, Owings 8, pumped	342	4272
The Texas Co., Barker 4, pumped and flowed	577	4271
HOPKINS COUNTY (Sulphur Bluff)—		
W. Goldston, Smith 20, flowed	150	4527
RUSK COUNTY (Wildcat)—		
Nivla Oil Co., Citizens Nat. Bank 1, M. D. Carmel sur, 2½ mi se Henderson	*	6802
TITUS COUNTY (Talco)—		
B. G. Byars, C. W. Belcher 2-B, pumped	270	4310
Humble, Batson 5, pumped	485	4331
Riddle 5, pumped	106	4312
Magnolia, Crawford 11, pumped	175	4310
Crawford 12, pumped	205	4277
O'Neal & Rotundi, Edwards 2-B, pumped	192	4320
Tide Water, C. M. Carr 9, pumped	175	4206
MARION COUNTY (Rodessa)—		
Mid-Continent Pet. Co., Sory 3, A. de Los Santos Coy sur	315	6054

*Failures; †Junked; ¶Million cu. ft. gas.

Birthday Is Near

East Texas field will be seven years old October 3. Density only 1 to 5.6 acres despite 23,500 wells.

By L. J. LOGAN, Associate Editor

WITHIN a few days—on October 3—occurs an anniversary of much importance in the oil industry. That day will be the anniversary of the discovery of the oil field that is identified by many superlatives: greatest, largest, most prolific, foremost in daily production, richest in yet recoverable oil, most active in drilling, and so on.

East Texas field will be seven years old.

World's Largest Field

This great field actually measures up to most of the distinctions with which it is commonly credited.

It covers more area than any other continuous, unbroken pool in the world, embracing about 132,000 productive acres that extend over portions of five counties. That great area, all underlain by the continuous 3600-foot oil sand, is the equivalent of a dozen ordinary major oil fields.

From north to south the giant field stretches for about 50 miles, and from east to west its width varies from 3 to 9 miles.

Has Over 23,500 Wells

The field now has over 23,500 oil wells, having been drilled to an average density of one well to each 5.6 acres.

But the end of drilling still is not in sight. Almost a hundred drilling rigs remain in operation in the field, and over 50 new wells a week are being completed regularly. Consequently, East Texas remains the most active field in the United States from the standpoint of drilling.

Leads in Daily Output

In production, no other field even approaches East Texas. The area currently is producing around 475,000 barrels daily, under strict proration, having been held down to a similar output throughout most of its life. If opened up, the field could produce many times that prorated output, and for a few days when proration temporarily broke down, it actually did produce over a million barrels daily.

The present large potential producing ability exists through benefit of proration, much of the oil accumulation being still in the reservoir, while the reservoir pressure remains comparatively strong. Some of the new wells upon completion show producing ability similar to that demonstrated originally by early wells in the field.

Surpasses Other Fields

Although only seven years old, East Texas already has surpassed all competitors in actual production, some of which have been producing 40 years or so. East Texas is the only field in the world with a record of over a billion barrels of oil production. Earlier this year it passed the billion barrel mark, and by now the cumulative production is around 1,090,000,000 barrels.

The nearest competitor to East Texas is the Midway-Sunset field, California, which has yielded somewhat over 800,000,000 barrels in 38 years.

East Texas already has produced more oil, in fact, than the expected ultimate recovery from any other field in the United States. In anticipated ultimate production, Kettleman Hills, California, ranks next after East Texas, and its ultimate yield is estimated around one billion barrels.

Two Billion to Go

Present estimates of ultimate production of East Texas field range mostly from 2½ to 3½ billion barrels, and thus an estimate that would appear fairly reasonable to all of the experts would be 3 billion (3,000,000,000) barrels.

That figure has the various advantages involved in accepting an average of many estimates. It compensates at the same time for favorable factors considered in the high estimates and for unfavorable circumstances that weigh heavily in the low estimates.

It is usually conceded that the ultimate recovery will depend to some extent upon the methods and rates of taking the oil from the ground; the most common opinion being that relatively small daily production tends to maintain the reservoir pressure and thus to promote maximum recovery of oil, although arguments have been advanced that more rapid production causes better flushing of the pay sand and consequently higher recovery.

But if the 3 billion barrel estimate is accepted, allowance is made for occurrence of either favorable or unfavorable conditions in the development of the field.

Still Greatest Reserve

Thus it appears that East Texas, with a billion barrels of recovered oil already to its credit, still holds in its pay sand about 2 billion barrels of recoverable oil.

Consequently, despite the great quantity of oil it already has given up, the East Texas field still rates as the country's No. 1 oil reserve.

Affects Industry's Welfare

The discovery of the East Texas field must be accorded a high ranking among the important events in the history of the industry, not only because of the many records that the field has set up, but also because of the far-reaching effect that the field has had on the industry's welfare for nearly a decade.

From its beginning to now, the field

has greatly affected the markets for crude oil and refined products, for worse or for better. In the earlier stages of its development, when proration was only partially effective, and when conditions were disorderly, East Texas pulled Mid-Continent crude prices down around 25 cents a barrel, or less, in some instances. But better control subsequently has promoted satisfactory crude prices, and East Texas crude currently sells for $1.35 a barrel, which is better than the average price for Mid-Continent crudes. Obviously, the field is no longer affecting the general crude market adversely.

Similarly, the numerous refineries that sprang up in and around the East Texas field early in its history have greatly affected the markets for gasoline and other refined oils. For an extended period those refineries, some of them processing illegally produced crude, kept the markets depressed or unsettled; but with virtual elimination of contraband crude, some of the small refineries have ceased to operate, and conditions are generally stable.

Influence Still Felt

While East Texas apparently has settled down, it still holds a position of great influence in the markets, and could cause swift changes in the existing market situation. The field is, in fact, tending to cause unsteadiness in the markets. For it is possible that there may be some unfavorable consequences of a crisis that has arisen in controlling the field.

It appears that the allowable production of the field should be reduced, to prevent declining pressures and to promote maximum oil recovery. But if the allowable is materially reduced, it will be necessary to cut quotas of individual wells below 20 barrels daily; whereas heretofore no well has been prorated below a "marginal well" quota of 20 barrels daily. Texas law apparently prohibits prorating a well of the East Texas depth range below 20 barrels daily. If the well allowables are cut below that level, court tests of the legality of East Texas proration may ensue. Yet if the field allowable continues to climb, through completions of new wells, pressures may decline further, and the proration program on that account would be of questionable soundness legally.

The situation naturally is a matter of considerable concern, and thus East Texas again is falling into the role of important market factor.

Discovery Well Completed

The East Texas field was proved for commercial production on the night of October 3, 1930, when C. M. "Dad" Joiner, after months of desultory drilling, completed his Rusk County wildcat, Daisy M. Bradford 3, which later proved to be barely within the eastern boundary of the productive area and near the south end of the field. Two earlier tests of Joiner on the same tract were junked while drilling at shallow depths.

When it was given its initial regular production test on the night of October 3, the discovery well flowed by heads, producing from Woodbine sand at 3536-3592 feet. The flowing life of the well was relatively short, and the largest daily flow it recorded was 458 barrels. The well was put on the pump the following February.

Prior to its completion, the discovery well had given indication that it would produce commercially, having yielded some oil through a drill stem test on September 5. But nearly a month elapsed before a string of casing could be financed and landed for completion of the well.

Texas issues 388 permits for new wells

Austin.—The Texas Railroad Commission this week approved permits for 388 new wells in Texas, 182 more than were allowed the week before.

In East Texas field there were 96 new locations, including 49 in Gregg County, 28 in Rusk, 16 in Upshur, 2 in Smith, and 1 in Cherokee County. East Central Texas reported 22 scattered locations.

There were 56 permits in West Texas, with 19 in Ector County, 11 in Upton and 16 in Ward County. Panhandle area had 21, all scattered.

North Texas reported 57 new permits, including 14 in Jack County, 28 in Wichita and 12 in Young County. West Central Texas listed 17.

Southwest Texas listed 46 new locations, with 18 in Duval County. There were 73 permits granted in the Gulf Coast, including 20 in Nueces County.

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PROSSER-TYPE ROPE SOCKET
Fig. 505

Specify Spang
"HIGHER-STANDARD" CABLE TOOLS

SOUTH TEXAS

Wet gasser proves deepest production of lower coast.

* * *

Maverick County Edwards well looks good.

Corpus Christi.—South Texas' trend toward deeper drilling along the coast continues to provide discoveries, several new strikes being added during the week. Likewise, the region's deepest producing area was proved through the completion of a wet gasser on the Lamar prospect in Aransas County by Barnsdall Oil Corporation.

Kate Edwards 1-A, flowed a large volume of gas with a spray of distillate after casing was perforated at 7502-30 feet. The test developed 1875 pounds working pressure through ¼-inch choke and a shut-in pressure of 2950 pounds. The well originally had been drilled at 9785 feet, but deeper drilling was prevented by stuck drill pipe.

The above test is 660 feet southwest of Edwards 1, recently drilled to 7997 feet but abandoned after sticking drill stem. The well did, however, flow considerable gas with some salt water and oil through the stuck pipe.

This is the second field below 7000 feet in Aransas County, the other being McCampbell, which has an oil zone in Frio at 7100 feet. Even deeper sands are expected in the McCampbell area, as is indicated by Atlantic Refining Company's Porterfield 1-C, Lot 8, Block 12, projected to 8100 feet. It found a sand at 7558½-9 feet with good saturation, another at 7622-25 feet with gas and salt water.

May Have New Sand

Over in Nueces County, the Agua Dulce-Stratton trend holds considerable interest with high pressure sands in the Frio continuing to be uncovered. Camp Production Company cored distillate sand at 6476-6509 feet in C. Phillips Wardner, Trustee, 1-A, 5½-inch casing being landed on bottom. The well is in the northwestern portion of Section 18 and is one mile southwest of the Stratton field. Completion will be effected through gun perforation around 6500-5 feet, where a high gas-oil ratio well is expected.

This test will open a third and deepest producing horizon for the field. It corresponds closely to a sand at a similar depth in the Agua Dulce to the northeast and on the same trend. Another test, probably farther to the southwest, is to be drilled to 7300 feet to test the Vicksburg showings encountered in the Agua Dulce district.

This trend has seven active wells, all being drilled to 6000 feet or below, one going to 8452 feet. It is United Production Corporation's M. L. Rivers 3-A.

Luby Looks Good

Seaboard Oil Corporation of Delaware apparently has a highly prolific field in the Luby area of Nueces County. K. L. Shaeffer 1, after perforating at 5058-62 feet, flowed 486.38 barrels on a 24-hour test through ¼-inch choke, pressures being 800 pounds on tubing and 750 pounds on casing. The test had been drilled to 7311 feet, finding sands at 6824-54 feet, 7004-15 feet and 7291-7311 feet, each of which indicated new producing levels for the field.

The 5500-foot sand of Heyser field, Victoria and Calhoun counties, was extended 4600 feet west and north by Gulf Oil Corporation's T. P. Traylor 1, which cored 82 feet of oil and gas sand. The gas portion of the horizon was from 5507-84 feet and oil from 5584-89 feet. A drill stem test from 5584-89 feet recovered 2500 feet of 31.4 gravity pipe line oil with 90 pounds working pressure through ¼ and ⅜-inch chokes in 10 minutes. Casing was landed at 5584 feet. This is the second well in this horizon in the Frio. Several other wells have during the past few days cored this horizon, indicating that it will cover the northwest side of the field.

Another important test in Victoria County is Stanolind Oil & Gas Company's Henderson and Pickering, which is located one mile northeast of Placedo production and two miles northwest of Keeran. This test tested gas in the Heterostegina zone at 4774-83 feet and again in the Frio at 5304-44 feet. Salt water was found at 5577-88 feet. It is coring at 5625 feet and near another expected sand. The well indicated a connection between these two fields.

Expect large production from Chittim anticline test

San Antonio.—Chittim anticline, long considered an important South Texas structure, likely will become a prolific producing area. This was indicated by Wellington Oil Company of Delaware's Chittim Ranch 1, Maverick County wildcat which was preparing to drill plugs and test an Edwards limestone showing at 3287 feet. The well topped the first odor of oil in this formation at 3255 feet, which increased in intensity to 3285 feet. At 3287 feet the well tried to blow out. It was killed and casing landed at 3256 feet. Live oil and gas was breaking on the ditch while coring, and a producer of rather large proportions is possible.

The well is located on a block of approximately 375,000 acres held by this concern in Maverick, Dimmitt and Zavalla Counties. The majority of it is on the Chittim anticline structure and comes in for a rather interesting play.

On Separate Structure

This potential producer is believed to be on an entirely separate structure although it is only 2910 feet east of a Glenrose producer. A surface fault, further evidenced by drilling, lies between the location and the producing area.

Chittim field did, however, have an Edwards limestone producer, Rycade Oil Corporation's Chittim 3, completed March 5, 1929, at 3205 feet flowing about 150 barrels of 44 gravity oil per day. The well, located only 150 feet from Chittim 1, soon went to water, apparently flooded by the offset well which encountered a large flow of water when drilled. Chittim 3 was later deepened to 6535 feet. Recently this test started making considerable oil from around the casing, apparently from the Edwards.

Major companies and independents hold considerable acreage along this trend into Dimmitt County, and several deep wells are expected to be sunk before the close of the year.

Over in Frio County, Amerada Petroleum Corporation's Halff and Oppenheimer 8, deepest test in South Texas, is drilling in the Trinity at 10,666 feet.

James E. Pederson was waiting on pumping equipment to test C. A. Turner 1, at Tanglewood in Lee County. The well is in Buda limestone at 6102-32 feet,

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where it made a small amount of oil after acidizing.

Two Due at Cedar Creek

In Bastrop County, Cedar Creek fault has two tests in process of completion in Austin chalk. R. Olsen Oil Company's M. Murchison 1, A. Litton survey, drilled to about 2350 feet in the Edwards limestone, but plugged back to 1875 feet, 37 feet in the Austin chalk, where it has been shot with 80 quarts of solidified nitro. The first two feet of the Edwards limestone core is supposed to have had an oil odor, while the next two carried sulphur water. Two miles to the northeast, Hantho Nelson, Inc.'s Litton 1, plugged back from the Edwards limestone at 2490-2517 feet to 2132 feet and is ready to test.

Two Mirando district tests have showings in Jackson

San Diego.—Shallow possibilities of Mirando district were further revived by Jackson sand showing in two wildcats and completion of several outpost producers. McMullen and Webb Counties shared the interest.

Adams & Lefevre's E. Garcia 1, 4½ miles south of Oilton production in Webb County, cored hard sand in the Mirando zone at 1856-66 feet and on a 15-minute drill stem test recovered 75 feet of oily mud, of which nearly 40 percent was oil, no water and good blow of petroleum gas. It is coring ahead at 2005 feet, but likely will plug back for completion if lower sands fail.

The well is in the northeast corner of Block 27, Hughes Subdivision of the Los Ojuelos Grant and is ½ mile east of the old Mirando City field. An entirely new field is likely if the well produces.

This trend has become unusually attractive to independent operators during the past few months as a result of the discovery of the Killam and Oilton pools with production ranging from 1850 to 2100 feet. Outpost wells as well as wildcats are being drilled along this trend to further widen these areas.

In Southeastern McMullen County, Adams & Lefevre have another hot wildcat, Margaret Selman 1, NE corner Section 58, which on a drill-stem test recovered 1860 feet of fluid, part mud, part oil and some brackish water at 2509-40 feet. It found sand in the Government Wells zone at 2512-16 feet and again at 2536-40 feet, both sections being tested at the same time. The well is coring ahead below 2910 feet for the Pettus sand. Another test undoubtedly will be drilled in the vicinity, irrespective of the outcome of the Selman test.

Bob Holland and Henderson Coquat definitely widened the Ezzell Ranch field of Live Oak and McMullen Counties, ¾ mile northeast during the week through completion of W. C. Matikin 1 via injection of outside gas. The well is producing 150 barrels of pipe line oil per day at 1502 feet. The test found sand at 1485-88 feet and 1494-1502 feet, casing being set at 1482 feet.

Heretofore, all production has been on the Ezzell Ranch held under lease by Edwin M. Jones. He has been carrying on a heavy drilling campaign and now has several hundred acres of developed production with a large potential producing area remaining to be developed.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
SAN ANTONIO DISTRICT		
BEXAR COUNTY—		
Earl M. Baker, E. M. Baker 4, F. Rolen sur 48 (Von Ormy)	†	650
E. C. Roberts, C. A. Weeber 1, 200 ft wl, 800 ft sl, 175-ac tr, Juan Montes sur, blk 4007	*	2014
CALDWELL COUNTY—		
Fred J. Adams et al, M. K. Dale 2, W. Spillers sur (Buchanan)	*	2065
Magnolia, W. J. Tiller 16, J. Henry sur (Luling)	60	2095
Richardson Pet. Co., Patterson 2, 250 ft ne, 660 ft sel in 106-ac tr, Wm. Pettus sur	*	775
Taylor Ref. Co., S. Punch 1, 150 ft sel and swl 56-ac tr Guadalupe College sur	*	2172
F. Stacey & M. F. Harwood 1, 590 ft nwl, 200 ft swl of farm in E. Tyson sur	*	1380
GUADALUPE COUNTY—		
M. E. Brooks et al, C. W. Appling 1, James Hodges sur (Darst Creek)	*	2715
Felmont Oil Corp., Lizzie Schuenemen 4, Green DeWitt sur 11 (Zoboroski)	*	2584
Tom Graham, J. M. Pearman 1, Robert Hall sur (Luling)	*	2302
W. W. Lincoln et al, J. H. Sherrill (Gabriel) 1, Geo. Allen sur, 450 ft sel, 750 ft nel (rd), 128-ac tr F. C. Gabriel tr	*	1065
WILSON COUNTY—		
Pat Higgins, Mary Dickey 1, 373 ft sw of old Sutherland Springs Stockdale rd, 433 ft sel of 160-ac tr M. Rodriguez sur	*	2057
MIRANDO DISTRICT		
DUVAL COUNTY—		
Arkansas Fuel Oil, Mabel Rossi 5, sec 10 Sweden sub (N. Sweden)	1250	4780
Benedum & Trees, F. V. Puig 6, San Andres gr (N. Sweden)	450	4786
Cox & Hamon, O. W. Greene 20, BS&F sur 118 (Hoffman)	75	2728
Gruy Estate 2, sec 393 (Rancho Solo)	20	1858
Cox & Hamon & Gorman-Yoakum, E. Robles 7, BS&F sur (Hoffman)	45	2789
Humble, Roos Brothers 9, BS&F sur (Labbe)	25	2807
Magnolia, DCRC 1, 330 ft sl, 2310 ft wl of sur 259	*	4300
DCRC 7, sur 203 (Piedre Lumbre)	175	1991
A. L. Labbe 9, sur 1 (Labbe)	75	2870
Navarro Oil, T. H. Couling (Owens) 2, Sweden subd, S. Flores grant, (N. Sweden)	500	4775
Parr & Delaney Oil Co., F. Vaello Puig 12, 330 ft sl 330 ft el 137.38 ac lse, San Andres gr	500	4801
Russ Petr. Corp., A. Farias 6, blk 9, Sweden subd, S. Flores grant (N. Sweden)	550	4805
Speed Oil Co., Gruy Estate 1, 1980 ft n & w of se cor sec 389, Poitevent sur	*	3152
Standard of Kansas, Mable Rossi 7, blk 10, Sweden subd S. Flores gr (N. Sweden)	500	4792
Standard of Texas, Gruy Estate 4, 350 ft nl and el of sec 154	*	3125
Tsesmelis & Reese, Juan Canales 2, 330 ft sl, 2200 ft wl blk 75, subd of J. Canales Ranch, San Juan gr	*	4008
STARR COUNTY—		
Gilcrease Oil Co., Kelsey-Bass 1, center nw 40-ac, sec 11, por 75, J. of Camargo	*	3257
H. J. Porter et al, Austruberto Flores 1, por 38, (Samfordyce)	650	3002
WEBB COUNTY—		
Mills Bennett, Oran L. De Spain 1, sur 1007 (Killam)	35	2000
J. E. B. Boone, P. H. Masterson 1, 330 ft nl and el, 160-ac, lse CCSD &RGNG sur, sec 21, blk 2	*	2252
Bridwell Oil Co., M. G. Martin 3, sur 2167 (Oilton)	100	1918
N. V. Duncan & Okla. Co. of Texas, Ft. Worth Natl Bank 1, 330 ft swl and sel of n¼ of sur 466	*	2017
Gypsy Oil Company, Maria G. Martin 9, sur 458 (Oilton)	210	1920
Maria G. Martin 10, sur 458 (Oilton)	705	1895
Rowan & Hope, Laurell Bros. 2, sur 1006 (Oilton)	190	1947
Smith & Hamill, Maria G. Martin 1, sur 2167 (Oilton)	900	1912
Maria G. Martin 2 sur 2167 (Oilton)	¶5	1893
ZAPATA COUNTY—		
B. W. Roscoe, C. Bustamante 28, sh 33, Fansler Partition, Comitas gr (Escobas)	18	1302
CORPUS CHRISTI DISTRICT		
ARANSAS COUNTY—		
Atlantic, Mrs. Elizabeth Murray 3-B, sec 12 (McCampbell)	300	7121
Barnsdall, Kate Edwards 1-A, 990 ft wl, 330 ft sl Wm. Lewis sur A-96 (perf. 7502-30)	¶10 & 25	9785
Buckingham Oil Co., W. G. McCampbell Ranch 12A, J. Orrick sur (McCampbell)	400	7149
Buckingham & Tom Graham, J. G. McCampbell 1-D, sec 9 (McCampbell)	900	7152
CALHOUN COUNTY—		
Humble & Plymouth, H. T. Marshall 3, A. Sisneros sur (Heyser)	225	5487
P. H. Welder 18-A, J. M. Rios sur (Heyser)	600	5489
KARNES COUNTY—		
Dirks Brothers, E. Ruhmann 4, James Johnson sur (S. Burnell)	400	3625
LIVE OAK COUNTY—		
Loma Oil Co., W. D. McCurdy 1, 2500 ft sl and el, Lula Brown 100-ac tr, J. Turner & M. Hely sur	*	1211
NUECES COUNTY—		
R. B. Bryant, Fred Frank 10, CEIP &M sur 500 (Saxet)	225	6985
Hiawatha O&G Co., Hutchins-Stillwell 13 blk 30, Sheppard Farm lots (Saxet)	625	6920
Humble & Barnsdall, Henry Cordz 5, lot 15, blk 48 (Flour Bluff)	375	6663
E. Roberdeau 4, lot 5, blk 49 (Flour Bluff)	350	6662
Richardson Pet. Co., C. J. Hoelscher 6, blk 22, J. C. Russell Farm lots (Saxet)	450	4425
Perkins-Legasse 6, blk 22, Sheppard Farm Lots (Saxet)	650	6103
Seaboard, Katherine L. Shaffer 1, Cuadrillo Colony Ditch Co. sur (Luby)	950	7311
B. F. Smith, Anton Ocker 1, Villareal sur (Saxet)	225	4905
REFUGIO COUNTY—		
Hewitt & Dougherty, M. F. Lambert 55, J. M. Swisher sur 8, (Tomoconnor)	1275	5931
M. F. Lambert 56, J. M. Swisher 6 (Tomoconnor-Greta)	1050	5932
Quintana Pet. Corp., C. Heard 5, M. J. Ximinez sur (Tomoconnor-Greta)	2675	5930
Mrs. F. V. W. Heard 10, T. H. Webb sur (Tomoconnor)	3100	5927
Tom O'Connor 20-C, Connell sur (Tomoconnor)	1250	5925
United Pet. Corp., M. F. Lambert 63, J. M. Swisher sur (Tomoconnor)	475	5916
SAN PATRICIO COUNTY—		
Humble, J. W. Mayo 29, J. H. W. Ottman sur (Taft)	65	3988
Phillips, H. Schmidt 3, G. H. Paul subd (Midway)	525	5359
VICTORIA COUNTY—		
Barnsdall & American Liberty, Pickering-Roos 25, SA&MG sur 5 (Placedo)	625	4762

*Failures; †Junked; ¶Million cu. ft. gas.

This Is What You Would Call Fast Moving

A drilling crew of Hamill & Smith, independent operators and drilling contractors, may have established some kind of a record when they set casing on one well, then skidded both a derrick and a rig 1300 feet and set casing below 1900 feet on a second well—all within 72 hours. This operation occurred in the Oilton district of Webb County, Southwest Texas, where production is found around 1900 feet.

Republic and Houston find field in Newton County.

* * *

World's second deepest producer extends Old Ocean.

Houston.—Houston Oil Company and Republic Production Company discovered another oil field on the Conroe trend September 22 when Pevey Moore 1, Call area, H. & T. C. Section 42, Newton County, came in flowing 300 barrels of fluid per day, 80 percent washwater and 20 percent oil, through ¼-inch choke in Cockfield formation. Seven-inch casing was cemented at 6987 feet and perforated with 20 shots from 6908 to 6918 feet. Tubing pressure was 400 pounds initially. September 24, the wildcat was making 800 barrels of oil through ½-inch choke. The oil showed 1 percent basic sediment and brackish water. Working pressure on the tubing was from 200 to 250 pounds, and casing pressure was 800 pounds.

Pevey Moore 1 was drilled into the upper Saline Bayou, which was topped at 7015 feet. The bottom of the hole was 7069 feet in salt water sands. Top of the sand was logged at 7029 feet.

Location has been made for Pevey Moore 2, approximately 1000 feet northeast of the discovery well.

Cedar Bayou Wildcat Disappoints

Ingot & Merit Oil Company's Wright Land 1, Cedar Bayou area, 4 miles southwest of Barbers Hill, 2 miles west of Cotton Lake, C. Smith Survey, Chambers County, showed salt water and oil on a drill stem test September 24. Broken sands in Marginulina formation from 6326 to 6456½ feet showed odors of oil. The best broken sand was logged from 6441 to 6456½ feet. On the 10-minute drill stem test from 6417 to 6456½ feet the testing tool slipped to 6437 feet and the wildcat showed 15 thribbles of fluid, 2 of which were pipe line oil, 2 thribbles oil and mud, 1 stand of salt water and oil, and 10 stands of salt water. The test, made through ¼-inch chokes, showed a pressure of 20 pounds.

Wright 1, which is approximately 30 feet off the top of the Frio, will be cored on down to test that formation. It is generally believed that the operators can produce oil from the Marginulina.

Second Deepest Producer in World

The second deepest commercial producer in the world was completed last week at Old Ocean, Brazoria County, when Harrison & Abercrombie brought in Larson 1, C. Breen Survey, approximately 1 mile northeast of production.

Larson 1 drilled to 10,751 feet and set 7-inch casing on bottom. Casing was perforated with 40 shots from 10,635 to 10,650 feet, and after washing for several days the well made 275 barrels in 24 hours through various sized chokes. Tubing pressure was 3800 pounds.

The Texas Company's Horseshoe Bayou 1 in the Louisiana Gulf Coast is the deepest producer in the world; it is flowing from 10,890 feet.

Heaving Shale Whips Pure at Peach Point

Pure Oil Company failed to whip heaving shale at Peach Point, Brazoria County, and was forced to abandon Slade 1 at 8397 feet. Slade 1, S. F. Austin Survey, Abstract 20, elevation 22 feet, hit shale above 7800 feet and continued in the formation to bottom. At 7475 to 7530 feet the well encountered a gas sand and tried to blow out. Seven-inch casing was set at 8161 feet, and after making about 300 feet below the casing the hole was abandoned.

The Texas Company and Sterling Oil & Refining Company completed another well in the new Frio sand at West Columbia field last year. T. L. Smith 1, G. Tennile Survey, made 25 barrels per hour through ¼-inch choke, with tubing pressure of 750 pounds. Casing was sealed. The well was completed at 5588 feet.

H. J. DeArman, the discoverer of Sandy Point field, Brazoria County, completed his second well there last week. Fite 2 made 135 barrels of oil daily through ¼-inch choke, with a tubing and casing pressure of 1000 pounds from Frio sands at 6489 to 6505 feet.

Clinton Extended Half Mile

Clinton gas field, Harris County, was extended a half mile northeast last week when Stanolind Oil & Gas Company completed Moody 1, Reels & Trobrough Survey, in a new shallow gas sand. Casing was perforated with 12 shots from 3596 to 3600 feet. The well made 2,130,000 cubic feet of gas daily through ¼-inch choke. Tubing pressure was 1360 pounds; casing pressure 1390 pounds.

South of production at Friendswood, Harris County, V. H. Borsodi's Berlowitz 1, T. Choate Survey, was waiting on cement at 6117 feet after running 7-inch casing to that depth. During the past week a drill stem test showed 2000 feet of oil.

Cores Salt Water

Humble Oil & Refining Company's Sabine Tram 2, M. Whittington Survey, Liberty County, cored salt water sands at 5269 feet and at 6638 feet, and will be drilled to the Cockfield or Upper Saline Bayou formation.

O. C. Carvey's Weaver 1, northwest of Cleveland, J. Devers Survey, was abandoned after coring salt water sands in Cockfield formation. The hole was plugged at 5985 feet. Top of the sand was logged at 5871 feet.

Woodley Petroleum Company's McMurtry 2, south of McMurtry 1, Hardin area, H. B. Johnston Survey, Liberty County, was junked last week at 5958 feet. The operator has made location for McMurtry 3.

South of production at Segno, Polk County, Gulf Oil Corporation's Wing 8, I. & G. N. Section 15, was drilling ahead below the producing horizon at 5983 feet last week. The operators made a drill stem test from 5915 to 5930 feet through a ⅜-inch choke and showed 840 feet of distillate and 150 feet of salt water in 15 minutes. Pressure was 200 pounds.

New Gas Sand at West Beaumont

A new gas sand for West Beaumont field, Jefferson County, was found last week when Glen H. McCarthy completed Longe C-1, H. Williams Survey, after perforating casing with 10 shots from 4600 to 4605 feet. The well came in with a tubing pressure of 1600 pounds and a casing pressure of 1650 pounds, through a 9/64-inch choke. Shut-in pressure was 1800 pounds. McCarthy completed Longe 5-A for 18 barrels per hour through ¼-inch choke from 5891 feet.

TEXAS GULF COAST Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
AMELIA—		
Humble, Crook 8	657	6776
Tyrell Combest 15	593	6781
Phelan 10	648	6783
Peveto 11	648	7780
CLINTON—		
Stanolind, Moody 1	¶2	3600
ESPERSON—		
General Crude, Sun Oil Co. 33	*	4127
HARDIN—		
Woodley Pet. Co., McMurtry 2	*	5958
HASTINGS—		
Humble, McDeed 1	675	6080
Haden 7	695	6080
South Texas Grain 6	656	6080
South Texas Grain 7	675	6080
Stanolind, Drake 11	656	6080
Edward 5	448	6080
Surface 6	531	6080
HULL—		
D. & L. Prod. Co., Pivoto 2	*	5450
W. B. Flynn, Abel 23	12	443
Republic Prod. Co., Dolbear 163	225	2460
Texas Co., Hannah Fee 9	382	4846
NOME—		
Sun, Long 5	235	6045
OLD OCEAN—		
Harrison & Abercrombie, Larson 1	275	10,650
SANDY POINT—		
H. J. DeArman, Fite 2	135	6505
SOUTH HOUSTON—		
Stanolind, Funk 2	159	4825
TOMBALL—		
Humble, Kobs B-5	556	5609
TURTLE BAY—		
Stanolind, Amick 1	*	lcn.
Middleton 4	¶1	6615
Middleton 5	552	6598
PICKETT RIDGE—		
Texas Co., Pierce Estate A-33	*	8888
WEST BEAUMONT—		
Glenn H. McCarthy, Longe 5-A	432	5891
WEST COLUMBIA—		
Texas Co., T. L. Smith 1	600	5588
WITHERS—		
Texas Co., Pierce Estate C-31	220	5552
BRAZORIA COUNTY—		
Pure Oil Co., Slade 1, Peach Point area, S. F. Austin sur	*	8397
LIBERTY COUNTY—		
O. C. Garvey, Weaver 1, nw of Cleveland, J. Devers sur	*	5985

*Failures; †Junked; ¶Million cu. ft. gas.

SOUTH LOUISIANA

North Crowley wildcat produces after many tests.

* * *

Continental test produces from Sparta formation.

* * *

Abbeville well tries to blow out at 11,909 feet.

Lake Charles.—Three new oil fields were discovered in the Louisiana sector of the Gulf Coast the past week, and an Acadia Parish wildcat is coring in sand with a faint odor of oil.

Humble Oil & Refining Company's Federal Land Bank 1, wildcat on North Crowley prospect, Section 34-8s-1e, came in September 22. On the first 24 hour gauge it made 679 barrels of 36 gravity oil daily through a quarter-inch choke, with tubing and casing pressures of 1175 pounds. Gas-oil ratio was 1345 to 1. This wildcat has been in the stage of completion for several months.

Discorbis formation was encountered at 7708 feet. After reaching 7939 feet several drill stem tests were made. Top of sand showing oil was logged at 7929 feet. Federal Land Bank 1 was then cored to 9339 feet, topping Heterostegina at 8203 feet, Marginulina at 8378 feet, and Frio at 8610 feet. A drill stem test at 8086 to 8106 feet showed 1170 feet of pipe line oil through a quarter-inch choke, with a 125-pound pressure.

It is believed that a record number of completion attempts were made on this wildcat. Over 30 drill stem tests were made and the casing, set at 8985 feet, was perforated more than 15 times. Finally, after making series of tests from bottom up to 8102 feet, the company perforated casing with 15 shots from 8082 to 8102 feet. The well was then washed for two hours and started flowing washwater and oil. The pipe line oil was turned into the tanks at 6 a. m. September 22.

Gets Shallow Oil at Potash

On September 20, Humble Oil & Refining Company completed the first oil producer at Potash, Plaquemines Parish. Orleans Levee Board 11, Section 10-18s-15e, came in flowing 25 barrels of 16 gravity oil daily from sands at 689 to 695 feet. Ten feet of 5-inch screen was set and 2½-inch tubing was hung at 661 feet. Humble and Texas Gulf Sulphur Company have been core-drilling this prospect for some time and recently encountered salt. All the core tests have shown sands above the salt which contained oil. It is expected that the operators will complete a few more wells in this shallow sand and then drill a deep well on the flank of the dome.

Production From Sparta

Although Continental Oil Company's Tate 1, Villa Platte area, Section 44-3s-2e, Evangeline Parish, came in on September 17 at a late hour there was no gauge on the well until September 18. Tate 1 made 125 barrels of 47.6 gravity oil the first 14 hours through a 3/16-inch choke from Sparta formation when perforated with 47 shots at 9007 to 9035 feet. Tubing pressure was 2200 pounds; casing pressure, 2750 pounds, along with an estimated 1,000,000 cubic feet of gas. The first full 24-hour gauge it made 172 barrels of 55 gravity oil through a 3/16-inch choke, with a tubing pressure of 2500 pounds and a casing pressure of 2700 pounds, with an estimated 2,000,000 cubic feet of gas. On September 19 it flowed 177 barrels of 57.6 gravity oil through a 3/16-inch choke and the pressures were the same as the day before. On September 21 the operators were flowing the well through different size chokes and Tate.1 made 256 barrels of 52.4 gravity oil through a 3/16, 3/8, and a 17/64-inch chokes. Tubing pressure was 2150 pounds; casing pressure, 2350 pounds.

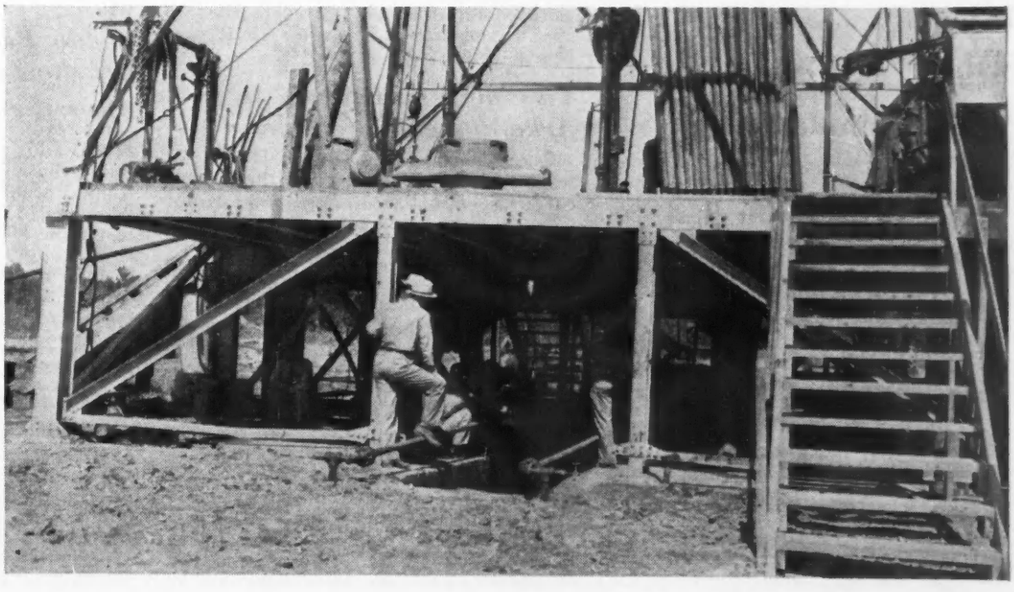
Continental Oil Company not only opened a new oil field in the Louisiana Gulf Coast with Tate 1, but it also discovered a new producing formation, Sparta, which will start a new play along the Conroe trend in Louisiana and Texas. Prospects along this trend will not be condemned now until the deep formation has been reached.

Tate 1 encountered Heterostegina at 4466 feet, Vicksburg at 7050 feet, Jackson at 7592 feet, Cockfield at 7735 feet, Cook Mountain at 8286 feet, Sparta at 8556 feet, and Cane River (Weeches) at 9040 feet.

Indications of another new field in South Louisiana, appeared September 24 when Amerada Petroleum Corporation and Louisiana Land & Exploration Company cored oil sand in South Coast Corporation 1, Raceland area, Section 34-15s-19e, Lafourche Parish. The well logged sands showing oil in Miocene formation from 7242 to 7247 feet and from 7269 to 7274 feet. Sand and sandy shale showing oil was cored from 7274 to 7279 feet.

The two organizations took 40,000-acres in this district some time ago, worked the area with reflection seismograph and made a selection of three blocks. The first two proved to be oil fields.

An important wildcat drilling on the Churchpoint prospect, Acadia Parish, encountered sand with an odor of oil. A later unconfirmed report states that the well logged 10 feet of saturated oil sand. The test is J. G. Markley et al's Daigle Farm Company 1, west of



Officials of Continental Oil Company under the derrick of Tate 1 to watch it come in as an oil well, opening a new field and a new producing formation in South Louisiana.

Woodley Petroleum Company's two dry holes, Section 19-7s-2e. The sand with an odor of oil was reported at 5480 feet and the 10 feet of saturated sand was logged from 5481 to 5491 feet.

Gulf Oil Corporation announced a wildcat location on its Midland block in Acadia Parish, last week. Broussard 1 is 860 feet north of the center of the railroad right of way along the east line of lease from the southeast corner of tract and west at right angles 264 feet in Section 49-10s-2w.

Attempts Blowout at 11,909 Feet

At Abbeville, Vermilion Parish, Continental Oil Company's Brookshire 1, Section 66-12s-3e, approximately 1000 feet east of the discovery well, attempted to blow out last week after encountering sand showing gas and oil from 11,906 to 11,909 feet. Drill pipe was stuck and circulation was lost. Attempts were being made to regain circulation. Every time the pipe is taken out of the hole it attempts to "kick."

Other Deep Wells Watched

At Lirette, Terrebonne Parish, Humble Oil & Refining Company's Ellender 1, which at one time was the deepest producing well in the world, was making two barrels of oil per hour through a quarter-inch choke from 10,600 feet. Tubing pressure was 3900 pounds. The well probably will be worked over. Originally completed at 11,630 feet, it flowed 40 barrels per hour before salt water intruded.

The Texas Company has passed the 11,000-foot mark in two wells in South Louisiana. At Bateman Bay, St. Mary Parish, State 1, Section 21-16s-12e, was down to 11,189 feet in shale. It is understood the wildcat has encountered some good showings of oil. Approximately ¾ mile east of production at Lafitte, Jefferson Parish, The Texas Company's State Bayou Norman 1, Section 28-17s-24e, was down to 11,781 feet in shale. The well may be drilled to 13,000 feet.

Herton Oil Company's Banta Roanes 1, Jeanerette, Section 40-13s-9e, St. Mary Parish, was drilling in sand showing oil at 10,390 feet after logging top of the sand at 10,355 feet.

At Charenton field, St. Mary Parish, Pan American Production Company is drilling the field's first 10,000-foot test. Lawes 4, Section 30-13s-10e, is down to 10,086 feet in shale and is drilling.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DARROW—		
Humble, Gumble 11	*	7894
JENNINGS—		
A. C. Glassel, Mamou and Bergeaux 1	595	6664
R. W. O'Mera, McFarlan 1	750	6901
WEST HACKBERRY—		
Stanolind, Duhon 1-B	*	6435
State Kelso Bayou 52	463	4910
Sutton & Burton, Duhon 3-A	312	4948
ACADIA PARISH—		
Humble, Federal Land Bank 1, North Crowley area, sec 34-8s-1e, dr to 9339 ft, pb and comp	679	8102
EVANGELINE PARISH—		
Continental, Tate 1, Villa Platte area, sec 44-3s-2e, dr to 9100 ft and perf 9035 ft	177	9035
PLAQUEMINES PARISH—		
Humble, Orleans Levee Board 11, Potash area, 10-18s-15e	25	696

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH LOUISIANA

Plan Glen Rose-Travis Peak test in Bienville.

★ ★ ★

Two more good wells in Arkansas end of Rodessa.

Shreveport.—Gulf Refining Company of Louisiana made location last week for a Glen Rose and Travis Peak test on a 25,000-acre block, assembled after extensive geophysical exploration more than a year ago. The test, which is ready to spud, is Good Pine Oil Company 1, SE SW 25-14n-8w, Bienville Parish, Castor district, not far from a known interior salt dome.

Fox and Phillips last week made location for a test to the Washita on a block on which the former completed a small gas well several months ago in Section 13-9n-12w. The new location is H. A. Cook Land Company 1, SW SE NW 1-9n-12w.

E. T. Oakes, who drilled the discovery well at Lisbon, has assembled a 6000-acre block centering around Section 29-18n-1e, Ouachita Parish, on the west side of the Monroe uplift for a contemplated 6000-foot test to be spudded by November 1.

The Texas Company has completed a 7000-acre block centering around Section 29-23n-3w, Union Parish, extending over into Township 23, Range 4 west, Claiborne Parish. It was assembled after extensive seismograph work.

Gulf Refining Company has been leasing in the lower part of Township 23 north, Range 5 west, and the north part of 22 north, Range 5 west.

Skelly Oil Company has entered Lisbon, leasing SW NW 28-21n-4w, and Tide Water Associated has also joined the play there to the east, leasing west half SW 4-20n-4w, and east half NE SE 5-20n-4w. Tide Water Associated and Sun Oil Company continue to add leases in the old Pine Island area in Township 21, Ranges 14 and 15 west.

Two more producers in Arkansas end of Rodessa

Shreveport.—Two more good wells were completed last week in the Arkansas extension of Rodessa in Miller County, both being operations of Freeman W. Burford. Capps B-1, center SE SE 11-20-28, was completed flowing 50 barrels hourly through 1-inch choke from 6091 feet and G. G. Gerald 1, SE SE 15-20-28, flowing 34 barrels per hour through 1-inch choke from 6033 feet. This gives Miller County 13 Rodessa oil wells.

Burford's two eastern outposts in Miller County are approaching the critical stage and contact points are being withheld. His August 1, SW SE NE SW 8-20-27, Miller County, is coring below 6012 feet and Garver-Means 1, C SW NW 11-20-27, is coring below 5973 feet.

The Marion County, Texas, end of Rodessa added only one producer last week, this being Mid-Continent Petroleum Company's Sory 3, A. de los Santos Coy Survey, Lodi offshoot, which had turned into a gas well recently after making one oil head. It was re-completed last week after a full string of 5½-inch casing was cemented and gauged 315 barrels of oil in 24 hours. With elevation of 264 feet it logged Henderson sand from 5992 to 6010 feet and topped the Gloyd at 6010 feet; total depth is 6054 feet.

The Hunter Company's Fonda 3, A. de los Santos Coy Survey, which was plugged back to 6114 feet and drilled out to 6143 feet after testing oil and salt water at 6151 feet, is standing with 4100 feet of fluid in the hole and probably will be standardized.

In the Jefferson end of Rodessa in Marion County, Holcomb and Thomasson made location for a new test ¼ mile southwest of production in the E. Ewing Survey. One half mile north of production George Barham started moving in materials for Whitfield 1, Gentry Survey. Shell Petroleum Corporation was coring for top of the Henderson sand at 5941 feet in Henderson 1, R. Bennington Survey. It is a north offset to Holcomb and Thomasson's Henderson 1, R. Bennington Survey, Jefferson discovery producer.

In the Lodi sector, Arkansas-Louisiana Gas Company is swabbing Fant 1, L. P. Cadenhead Survey, north of production after shooting with nitroglycerine.

Caddo Parish wildcat gets gas show on test of Marine

Shreveport. — Prairie River Syndicate's Hutchinson 1, SW NW 15-15n-12w, Caddo Parish wildcat test drilled into the lower Marine formation, topped at 8773 feet, last week showed 22 joints of gas cut mud in a drill stem test from 8990 to 9018 feet with formation tester open fifteen minutes with ¼-inch chokes at top and bottom. Another test was being tried after six feet more of formation was drilled.

Rodessa's yield 45,538,749 barrels since discovery

Shreveport. — Total cumulative production from the Rodessa field to September 1, 1937, is 45,538,749 barrels of oil. The first oil well in that field was completed July 16, 1935. Rodessa had 768 wells as of September 22, of which 13 are in Arkansas, 407 in Louisiana, and 348 in Texas.

ARKANSAS FIELDS

Schuler Permian lime well flows oil and salt water

El Dorado, Ark.—E. M. Jones and associates' Marine Oil Company 1, test in NW SW SE of Schuler district, Union County, flowed oil and salt water when perforated in Permian lime from 7554-71 feet. The test had logged 51 feet of formation showing oil.

In the first 70 hours the well made a net yield of oil totaling 3340 barrels, which was taken by Lion Oil Refining Company's pipe line. The salt water varied in amount of 2 percent to as high as 90 percent, but was decreasing spasmodically.

On the 24-hour gauge ending at 7 a.m. September 22, Marine Oil Company made net oil amounting to 2,387 barrels, with 22 percent water and basic sediment. Casing pressure was 1550 pounds; tubing pressure, 250 pounds. Corrected gravity of the oil is 29.31. Temperature was 144 degrees.

Water had not shown up in the 51 feet of formation cored at bottom of the hole.

Lion Oil Refining Company's Morgan A-1, Section 18-18-17, being deepened to the Permian lime, has hole cleaned and is drilling below 6375 feet.

Louisiana issues 21 permits for new wells

Shreveport.—Twenty-one drilling permits were issued last week by the minerals division, Louisiana Conservation Commission. Fourteen were for North Louisiana, divided among the following parishes: Bienville 1; Bossier 1; Caddo 4, including 1 in Rodessa; Claiborne 4, including 2 in Lisbon; La Salle 1; Lincoln 1, in Lisbon; Sabine 1; Webster 1. Seven in South Louisiana were divided among the following parishes: Acadia 2; Calcasieu 1; Cameron 2; Plaquemines 1; Terrebonne 1.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Rodessa)—		
Holcomb & Thomasson, Smith 1, 4-23n-16w	145	6018
United Gas P. S. Co., Starcke 5, 8-23n-16w	175	6000
CLAIBORNE PARISH (Lisbon)—		
Atlantic Ref. Co., King 4, 35-21n-5w	1080	5223
Harry Hanbury, R. Vaughn B-2, 25-21n-5w	1200	5262
Magnolia Pet. Co., H. E. Patton 4, 36-21n-5w	650	5281
Sloan & Zook, H. W. & M. Patton 2, 120n-5w	170	5261
Standard Oil Co. of La., King 4, 35-21n-5w	1184	5304
LINCOLN PARISH (Lisbon)—		
Lyons & Neely, H. E. Patton B-1, 6-20n-4w	696	5367
CADDO PARISH (Pine Island)—		
C. L. Ferguson et al, Cooney 1, 5-21n-16w	10	2265
Stanolind O&G Co., Dillon Hrs 126, 14-21n-15w	10	1720
OUACHITA PARISH (Monroe)—		
Carbons Consolidated, Fee 13, 35-19n-3e	¶1	2196
J. & H. Oil Co., Frost Lbr. Ind. A-4, 35-19n-3e	¶2	2225
UNION PARISH (Monroe)—		
Southern Carbon Co., Grayling 17, 21-21n-4e	¶10	2152
Grayling 20, 20-21n-4e	¶16½	2118
United Gas P. S. Co., Wheeler 1, 10-21n-3e	¶2	2266

*Failures; †Junked; ¶Million cu. ft. gas.

May drill 7500-foot test on block south of Schuler

El Dorado, Ark.—Possibility of a 7500-foot test being drilled south of Schuler, Union County, is seen with the assembling of a block of acreage around Section 33-18-17 by A. Eason and J. W. Moore, calling for a test to that depth which would be close to, if not into, the Permian line. Edwin M. Jones, Murphy Land Company and others are putting acreage into the block.

Much geophysical exploration continues in south Arkansas. Ohio Oil Company has a torsion balance unit working in Chicot County, southeast of Lake Village. In Columbia County, southwest of Magnolia, Standard Oil Company of Louisiana has a shooting unit in Township 18, Range 22, and in LaFayette County, near Stamps, Shell Petroleum Corporation has a seismograph unit.

Gulf Refining Company has been leasing recently around Section 31-18-15, and 33-19-18, both in Union County.

Rodessa extension is not included in Arkansas permits

El Dorado, Ark.—Four drilling permits were issued last week by the Arkansas Board of Conservation. For the first time in two months the Miller County extension of Rodessa failed to secure a permit.

A list of the permits follows:

Columbia County: Kerr-Lynn & Company, Oklahoma, Barnett 1, 330 north and 300 West SEc SW NE 14-17-20.

Lincoln County: Fitzwater, Inc., Owen 1, 330 feet south and east NWc SW NE 26-9-8.

Nevada County: Union Drilling Company, R. W. Fuller 1, 100 feet north and east SWc NE SW 5-13-21.

Ouachita County: O. F. Whittaker, C. C. Guttry 1, 440 feet east and 200 north, SWc SE NW 21-15-19.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MILLER COUNTY (Rodessa)—		
Freeman W. Burford, Capps B-1, 11-20-28	1200	6091
Eason 3, 11-20-28	1320	6075
G. G. Gerald 1, 15-20-28	816	6033
UNION COUNTY (Schuler)—		
Edwin M. Jones et al, Marine Oil Co. 1, 17-18-17	1150	7615

*Failures; †Junked; ¶Million cu. ft. gas.

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PELICAN WELL TOOL & SUPPLY CO.

SHREVEPORT LOUISIANA

Lake Charles—Houma—Converse
New Iberia—Rodessa—Monroe
Cotton Valley—Turnertown
Greggton—Houston

SOUTHEASTERN STATES

Mississippi wildcat cleans out cavings after shows

Jackson, Miss.—Charles Green and associates are preparing to clean out caving hole in Julian Taylor 1, Section 4-3n-1e, Wilkinson County, southwest Mississippi, that occurred while the testing tool was being run to test a formation at 2378-2410 feet, which on electrical logging device showed 3.5 ohms and 80 millivolts. Depth is 4048 feet in the top of the Minden. The electrical tester also showed 5 ohms and 90 millivolts at 2460-67 feet. Elevation is 251 feet.

Snow-Black Petroleum Company is cleaning out Cranford 1, S½ NW 29-7n-12w, Jones County wildcat. Depth is 4110 feet.

Joe Modisett is setting 9-inch casing around 3700 feet in McCorvey 1, SE SW SW 29-9n-2w, Choctaw County, Alabama, proposed 8000-foot test on the Hatchetigbee anticline. Depth is 4528 feet.

Arnold finishes seven core holes on Mississippi block

Jackson, Miss.—Ray Arnold, core drilling contractor of Houston, Texas, has completed a series of seven 900-foot core holes for Louisiana Crusader Oil Company and the Eastman-Gardiner Lumber Company on a 17,000-acre block owned by the latter in Townships 7 and 8 north, Ranges 9 and 10 west, in Jones and Wayne counties, southeast Mississippi.

The Texas Company has added 6000 acres to its old block of 8000 acres it has had for three years in Greene County, southeast Mississippi, in the vicinity of the Hatchetigbee anticline. The original 8000 acres was in the northeast part of Township 2 north, Range 7 west, and the additional acreage is in the northwest quarter of Township 2 north, Range 6 west. The latter was at one time held by United Gas Public Service Company and Pelican Oil & Gasoline Company. The Texas Company now has a seismograph unit detailing the block. United Gas also has a seismograph unit in this area.

Phillips Petroleum Company is doing final title work on acreage in Township 2 north, Range 10 west, Perry County, southeast Mississippi, preparatory to making location for a test.

Location Expected Soon

Petty Geophysical Service has just completed extensive geophysical work on a 150,000-acre tract in western Hinds and eastern Warren counties, west Mississippi, and a location for a deep test is expected to be made soon.

Sun Oil Company has a torsion balance unit working in Forrest County, west of Hattiesburg. Shell Petroleum Corporation has a gravimeter unit working in Lincoln County, and Continental Oil Company has a similar unit in the same county. The California Company has a shooting unit in Lawrence County.

Bienville Parish wildcat makes gas and distillate

Shreveport.—One-fourth mile northwest of Seaboard Oil Corporation's McGee 1, gas-distillate well in Section 3-16n-6w, Bear Creek district, Bienville Parish, Seaboard and H. L. Hunt last week completed Commercial Real Estate Corporation 1, C NE SW 3-16n-6w, after perforating casing at 6780 to 6789 feet, for a million cubic feet of gas and 25 barrels of distillate. The well was flowing through ¼-inch choke on 2-inch tubing, with tubing pressure 2250 pounds and casing pressure 220 pounds.

With an elevation of 241 feet this well logged massive anhydrite from 5270 to 5510 feet and logged base of anhydrite stringer at 5643 feet.

Continues Testing

W. J. Hunter and associates' N. B. Stoer 1, NW SW NE 10-15n-15w, Caddo Parish wildcat, continues testing after perforating with 50 shots from 5100 to 5120 feet and is averaging about 2,000,000 cubic feet of gas daily and 10 barrels of distillate per hour, with a spray of salt water, flowing through various sized chokes.

MISSISSIPPI Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
HINDS COUNTY (Jackson)—		
State of Mississippi, Fee 7, 26-6n-1e	¶15	2524

*Failures; †Junked; ¶Million cu. ft. gas.

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UNDERGROUND WELL SURVEYING SERVICE

ROCKY MOUNTAIN FIELDS

Deep test in Lance Creek shows oil in Minelusa

Casper, Wyo.—Continental Oil Company is preparing to run an electrical logging device to 6220 feet in Tom Bell 10, deep test in C SW NW 34-36n-65w, southeastern sector of Lance Creek field in Niobrara County. Good oil shows were encountered in the upper sections of the Minnelusa.

Near Lance Creek and on the East Lance Creek High, the same company is reported to have obtained 2,500,000 feet of gas and no oil on a drill stem test made at 3700 feet in Leach 1, a wildcat in SW NE NE 29-36n-64w.

Shell Creek structure in Moffat County, northwestern Colorado, received a disappointment this week when Mountain Fuel Supply Company's S. A. Duncan 1, wildcat in C NE SW 1-11n-100w, was plugged at 2530 feet.

MOUNTAIN STATES Completions

Company, Well, Location	Init. Prod. Bbls.	Depth
COLORADO		
EAGLE COUNTY (Gypsum Creek Structure)—		
Stnaolind Jenkinson 1, nw sw sw 34-8s-85w	*	1000
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
Glacier Production Co., Monroe Unit 1, s sw ne 23-33n-5w	¶10	2764
TOOLE COUNTY (Kevin-Sunburst Feld)—		
California Co., Newmann 6, ne nw ne 23-35n-2w	15	1472
Raymond E. Dockery, Gunderson 2, se sw nw 19-35n-2w	23	1587
P. L. Eddy, Seabrook 7, se sw sw 19-35n-2w	12	1525
Ohio Oil, Swayze 3, se nw sw 35-36n-2w	12	1615
Rimrock Oil Co., Schmidt 3, se nw nw 29-35n-3w	4	1597
WYOMING		
JOHNSON COUNTY (Billy Creek Feld)—		
Carter Oil Co., Fred Rider 3, cnw se 17-48n-82w	*	7664
SUBLETTE COUNTY (LaBarge Field)—		
The Texas Co., 6-J 07478-A, ne se sw 27-27n-113w	12	920
WASHAKIE COUNTY (Hidden Dome Field)—		
Wyoming O&G Co., Government 9, n nw nw 31-48n-90w	20	1473
Arlt & Doyle, Government 1, sw sw se 29-48n-91w	*	1632

*Failures; †Junked; ¶Million cu. ft. gas.

Petroleum Technology for 1937 is published

The Institution of Petroleum Technologists, Aldine House, Bedford Street, London, W. C. 2, England, recently published its yearly book, pertaining to the various phases of the oil industry, entitled "Petroleum Technology in 1936."

This book, as in previous years, is concerned with the principal sections of petroleum technology, geology, production, drilling, transport, storage, refining, products and utilization.

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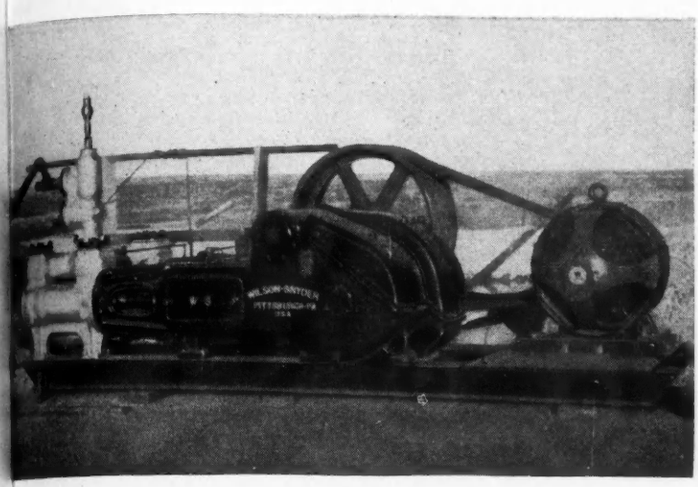
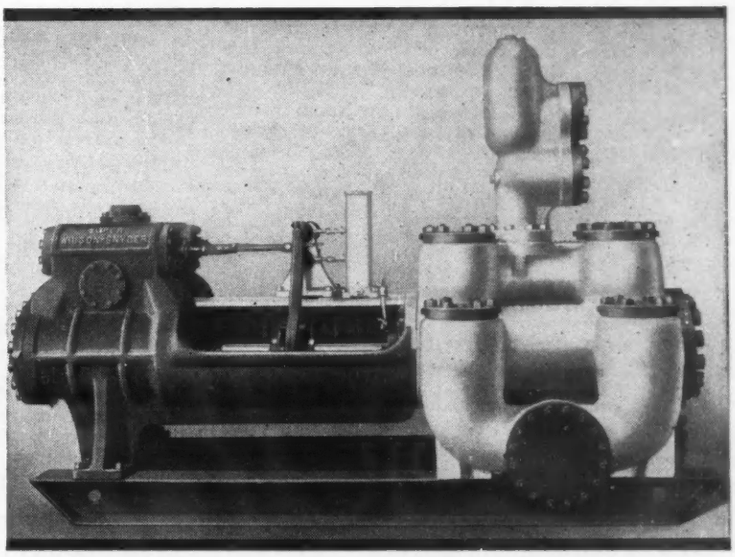


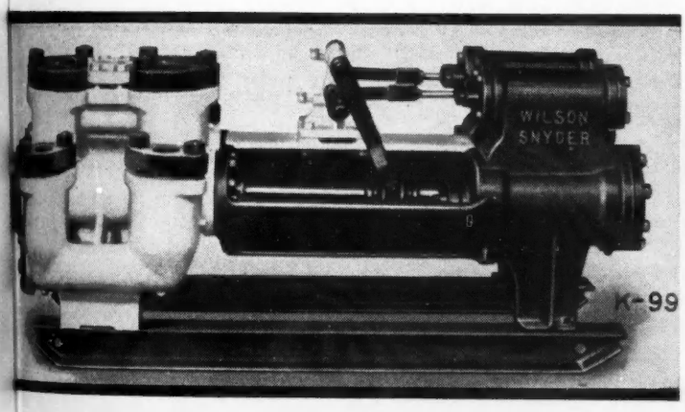
POWER PUMPS

No. 7 — 7¼ x 18
No. 6 — 6 x 16
No. 12 — 6 x 12
No. 12 — 5 x 12



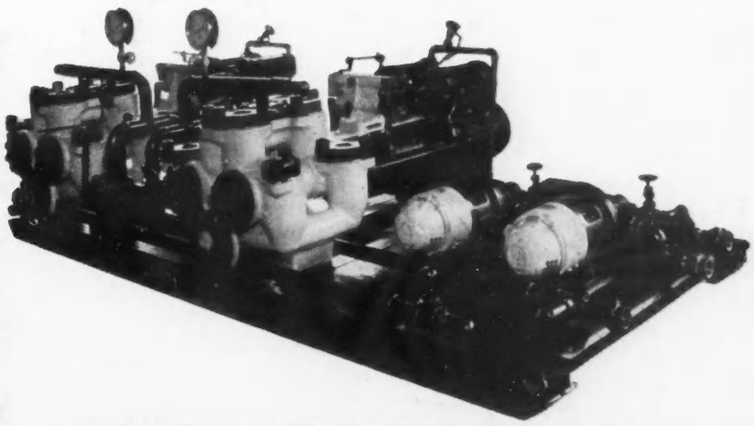
STEAM PUMPS

Super — 15 x 7¾ x 20 — (10" Combination Side and End Suction).
No. 18 — 14 x 7½ x 18 — (10" Combination Side and End Suction).
No. 16 — 12 x 6 x 16.



BOILER FEED PUMPS

10 x 4½ x 10
7 x 4½ x 10



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NEW MEXICO

Monument and Eunice fields are extended.

* * *

South Eunice well flows 28,152 barrels.

Hobbs, N. M.—New Mexico at present is comparatively active in drilling, having furnished 15 completions the past week, while locations were made for 14 wells.

Considerable work now is in progress in the Grayburg area of Eddy County, while various Lea County pools are represented among current completions and new locations.

Recent important developments in the Lea County fields have included further extensions of the productive limits of Monument and Eunice fields and the gauging of the recently completed, exceptionally prolific well of the South Eunice field.

After treatment with 2000 gallons of acid, the Stevens 3-A of Nash-Windfohr-Brown in the Grayburg area, C SE NW 13-17s-30e, flowed 526 barrels daily through tubing from 3364-3500 feet.

Flows 1173 Barrels in Hour

The exceptionally productive well of the South Eunice area, Texas & Pacific Coal & Oil Company's State 5, Account 2, C NE NE 7-22s-36e, proved one of the best wells ever completed in New Mexico, when it gauged 1173 barrels of oil in one hour through open casing and tubing, or at the rate of 28,152 barrels daily, from 3782 feet.

The well was connected to two separators by two 4-inch lines, and after the gauge it was shut in. The gas production, along with the oil, was at the rate of 23,000,000 cubic feet daily. The well is a south offset to a 100-barrels an hour producer.

Oil in Vacuum Well

Magnolia Petroleum Company's State-Bridges 2, C SW SE 14-17s-34e, prospective one half mile southwest extension well for the Vacuum pool, Lea County, late last week flowed 589 barrels of oil, natural, in 24 hours through open 7-inch casing from lime at 4593 feet, having logged further oil pay at 4552-4593 feet. Previously, it encountered pay sands at 4510-4513 feet and at 4428-4442 feet. On encountering the 4510-4513 foot pay, the well had swabbed 150 barrels one day and 100 barrels the next. At the present depth tubing has been run, and the pay horizon may be shot and treated with acid.

This well of the Vacuum area is in the C SW SE 14-17s-34e. The field is northwest of the Hobbs-Monument-Eunice trend fields, and the new well probably will stimulate interest in a large area in northern and western Lea County.

It is indicated that Phillips Petroleum Company may abandon Lea 1, C NW NW 30-17s-34e, five miles west and 1½ miles south of the Vacuum pool. The well is shut down for orders at 4952 feet in lime, with 3500 feet of sulphur water in the hole. The well logged oil stains at 4673-4686 feet, yielded eight barrels fluid daily, including 10 percent oil and 90 percent water, from 4702-4707 feet, and a trace of oil with water from 4912-4916 feet.

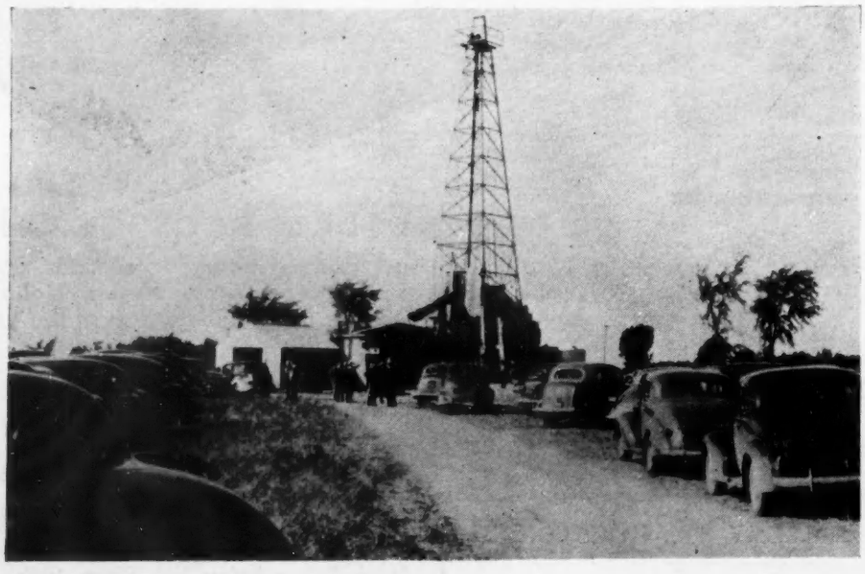
New Locations Made

The 14 new locations that have been made in New Mexico include five in the Grayburg area of Eddy County, and nine in Lea County, the latter group consisting of three each in the Eunice and Monument fields, two in the Langlie area, and one in the Mattix area.

NEW MEXICO Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
EDDY COUNTY—		
Nash-Windforth-Brown, Stevens 3-A, c se nw 13-17s-30e	526	3500
Tigner-Etz-Keyes, Keyes 2-B, sec 10-17s-28e	¶4	1387
LEA COUNTY (Hardy)—		
Skelly, Hill 1, c lot 7, 6-21s-37e, flowed	140	3870
Stanolind, Hill 1, c lot 15, 5-21s-37e, pumped	25	3761
LEA COUNTY (Eunice)—		
Continental, Lockhart 1 B-30, c se sw 30-21s-36e, pb to 3936 ft	¶1	4101
Shell, State 1-L, ne ne se 1-21s-35e	352	3873
Stanolind, State 2, c sw se 2-21s-36e	156	3834
Gilluly 6-A, c ne sw 25-20s-36e	1372	3854
Gilluly 7-A, c sw se 24-20s-36e	1800	3858
LEA COUNTY (Monument)—		
Empire, Persons 1, c se se 27-19s-36e, nw part field	35	4002
Herschback, Crutchfield 1, sw se ne 32-19s-37e	186	3909
LEA COUNTY (Penrose)—		
Skelly, A. B. Baker 1, c nw nw 26-22s-37e	84	3705
J. V. Baker 5, c se nw 27-22s-37e	120	3620
Grizzell 1, c sw ne 6-22s-37e	144	3800
LEA COUNTY (Skelly)—		
Skelly-Atlantic, W. P. Sims 1-E, c sw ne 10-23s-37e	472	3625

*Failures; †Junked; ¶Million cu. ft. gas.



Only 10 miles northwest of Mt. Pleasant, Boston Oil & Gas Company's Fox 1 has created more interest than any wildcat drilled in Michigan this year. This photo shows part of the cars parked at the well the day following first oil showings.

Tulsa.—Members of the Mid-Continent and tri-state sections of the American Institute of Mining & Metallurgical Engineers held a picnic meeting September 26 at Woolaroc Lodge as guests of Frank Phillips, president of Phillips Petroleum Company. An auto tour of the ranch and inspection of the lodge, grounds and museum was followed by two informal papers on the zinc and oil mining industries.

MICHIGAN FIELDS

Show in Isabella County wildcat starts lease play

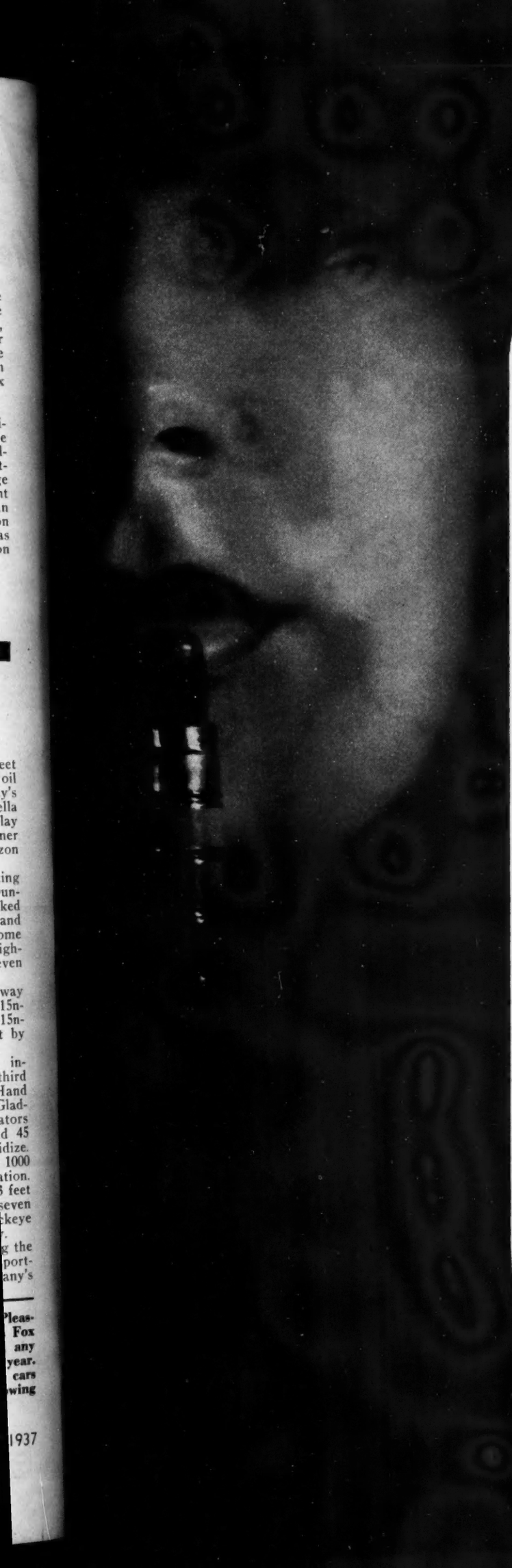
Mt. Pleasant, Mich.—With 1100 feet of fluid in the hole and bailing live oil and gas, Boston Oil & Gas Company's Fox 1 NE NE NE 23-15n-5w, Isabella County, started a lease and royalty play this week and may be the forerunner to a new Dundee-Monroe lime horizon pool.

Casing was set, but further testing was delayed by a leaking packer. Dundee (or Monroe lime) top was checked at 3820 feet, elevation at 864 feet, and bottom of the hole at 3823 feet. Some operators picked the top four feet higher, which would make the well seven feet in the lime.

The Fox wildcat is about mid-way between the new Sherman field (15n-6w) and the old Chippewa field (15n-3w). It is on 80 acres farmed out by Gulf Refining Company.

Second in importance was an increase in production following a third attempt to make the Harold J. Hand wildcat test in Section 29-17n-2e, Gladwin County "take" acid. Operators swabbed 230 barrels first day and 45 barrels second day and may re-acidize. So far, only part of the scheduled 1000 gallons has gone into the formation. Test is showing from 3497 feet (83 feet in the Dundee limestone). It is seven miles southeast of the Lower Buckeye producing field in Gladwin County.

Michigan's 17 completions during the week included failures on two important wildcat tests. Rex Oil Company's



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QUALITY YOUNGSTOWN SERVICE

YOUNGSTOWN

Meekoff 1, NE NE SE 30-21n-6w, Missaukee County, was abandoned at 3936 feet through the Dundee and Monroe horizons of the Devonian. The other wildcat failure was C. W. Spaulding's Dalrymple 1, 35-10n-7e, Tuscola County, which showed in the Upper Dundee, but had a hole full of water at 2606 feet.

Skimming plant to start operating October 1

Mt. Pleasant, Mich.—Northern Refiners, Inc., which a year ago, built, but never operated, a plant at Alma, Michigan, has re-organized and will place the 2500 barrel skimming plant on stream October 1.

A deal is pending to reorganize the shut down 2000 barrel plant at Flat Rock, Michigan, built by the Inter-Lakes Refining Company and operated during 1936.

MICHIGAN Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ALLEGAN COUNTY—		
J. V. Wicklund Co.'s Winchester 1, nw sw nw 13-4n-13w	*	1689
Lentz & Miller, Inc.'s Sebright 2, sw nw sw 16-4n-13w	35	1650
J. C. Clavin's Brenner 1, se ne ne 17-4n-13w	20	1635
GLADWIN COUNTY—		
E. S. Beaver, Tr.'s State B-3, se ne ne 14-18n-1w	2500	3627
Swanson & Big Threes Fritzwater 2, nw ne se 26-18n-1w	400	3597
Hubert S. Smith's Foster 1, sw nw se 26-18n-1w	40	3591
Foster 2, se nw se 26-18n-1w	70	3597
Bell & Mark's Lincoln 4, nw ne se 35-18n-1w	1700	3587
Schelling & Schrot's Nash 2, ne nw se 35-18n-1w	2200	3600
ISABELLA COUNTY—		
J. A. Peirce's Herman 1, w½ nw 4-16n-4w	*	1375
Pure Oil Co.'s Baker 3, se sw nw 33-15n-6w	775	3674
MIDLAND COUNTY—		
Pure Oil Co.'s Bond C-12, c s½ nw ne 12-13n-2w	35	3432
MISSAUKEE COUNTY—		
Rex Oil & Gas Co.'s Meekoff 1, ne ne se 30-21n-6w	*	3936
MONTCALM COUNTY—		
Gulf Ref. Co.'s Eastman 2, ne sw sw 12-10n-5w	*	3200
OGEMAW COUNTY—		
Weber Oil Co.'s Vokac 1, se ne nw 36-22n-2e	70	2610
McClanahan Oil Co.s Heintz 6, ne nw nw 24-22n-1e	20	2840
TUSCOLA COUNTY—		
C. W. Spaulding's Dalrymple 1, ne se ne 35-10n-7e	*	2606

*Failures; †Junked; ¶Million cu. ft. gas.

Noble Township wildcat extends field several miles.

* * *

Deepened Oriskany test yields 20,000,000 cubic feet.

Pittsburgh.—Illinois again took the Eastern Fields' spotlight last week with an important extension to Noble pool of Richland County which indicated the highly productive area of Clay, Wayne and Richland counties may extend north into Jasper County. Mammoth Oil Company brought in Leo Heitz 1, Section 34, Township 4n-9e, Noble Township, September 19, with an estimated initial production of 1500 barrels.

Pure Oil Company has two offsets to the producer, which provides an extension several miles to the north and east. Mammoth also has two offsets.

South Outpost Hits Salt Water

Leo Heitz 1 found the McClosky producing formation at 2972-3003 feet.

Myers & Fitzpatrick's A. Shannon 1, one of the centers of attraction a week ago as providing a possible 2-mile southerly extension to the Clay City field, ran into a heavy flow of salt water which a pumping test is trying to exhaust. Cores taken a week ago indicated a 1000-barrel well. Location is Section 26, Zif Township, northern Wayne County.

Ralph H. Neely et al's wildcat, Rolla Baughman 1-A, drew attention to the area south of Olney, Richland County, as it neared the McClosky. If successful, it will extend Noble field 10 miles eastward. Drilling was below 2770 feet as the week closed, with formations running good.

Deepening Rewarded

In the Oriskany fields of Kanawha County, West Virginia, Columbian Carbon Company's test on the Mary C. Young tract, Poca district, in the Coopers Creek field, reported completed a week ago at 4886 feet with a flow of 1,050,000 cubic feet a day, was deepened to 4931 feet and now gauges 20,000,000 cubic feet. One of the largest wells in this field, it topped Oriskany at 4875 feet.

A review of operations in the Allegany oil field of New York reveals 68 operations drilling.

Sinclair reduces takings from Wellsville field

New York.—Producers of crude in the Wellsville, New York, district were notified of a 10 percent cut in purchases by the Sinclair Refining Company through the following notice issued by the company:

"Notice is hereby given that the purchaser's requirements for the month of September, 1937, is 90 percent of the normal amount of crude oil stipulated in our purchase agreements you hold for the property owned or controlled by you. This requirement will continue from month to month until further notice."

West Virginia issues 113 permits during August

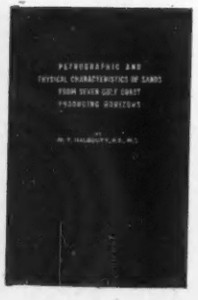
Charleston, W. Va.—Drilling permits issued in West Virginia during August totaled 113, within 3 of the year's high established in June and 2 over the previous month, according to N. P. Rhinehart, chief of the department of mines.

Permits issued by counties follow: Boone 2, Braxton 3, Cabel 4, Calhoun 3, Clay 2, Doddridge 5, Gilmer 4, Harrison 1, Jackson 1, Kanawha 29, Lewis 2, Lincoln 6, Logan 1, Marion 3, Mingo 1, Monogalia 1, Nicholas 1, Pleasants 5, Ritchie 13, Roane 6, Tyler 2, Wayne 1, Wetzel 3, Wirt 1, Wood 7.

Roth says Appalachian gas reserves good for 20 years

Cleveland, Ohio.—Based on present drilling activity and current demand, natural gas reserves of the Appalachian gas area, which is distributed in Ohio and other eastern states, will be exhausted in 20 to 25 years, E. E. Roth, geologist of Columbia Gas & Electric Corporation, told the Ohio Public Utilities Commission last week.

Roth's testimony was given in a rate case before the commission and concerns the Columbia and affiliated companies marketing natural gas over the major part of the state. It was in sup-



PETROGRAPHIC AND PHYSICAL CHARACTERISTICS OF SANDS FROM SEVEN GULF COAST PRODUCING HORIZONS

By M. T. Halbouty, B.S., M.S.,
Merit Oil Corp.

The material printed in this book was first published in The OIL WEEKLY in a number of installments, extending over a seven-week period. Because of the widespread interest and demand for copies, it is being presented in book form for the benefit of those who may wish to study or continue the research work of M. T. Halbouty, the author.

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port of the companies' claim for a liberal allowance in their rate bases to cover depletion of wells and cost of new development.

Outlook Poor

He said that without development of new pools, the present supply would be equivalent to 16 years' consumption, but actually declining pressures would prevent extraction of all the gas in that time. "New gas must be found, but the area has been thoroughly explored and only small pools are likely to be developed in the future," he explained.

Gas reserves in the territory, which includes Ohio, West Virginia, eastern Kentucky, western Pennsylvania and western New York, have declined steadily since 1920, when development of the new Kentucky fields interrupted a decline that had begun in 1912, he told the commission. Since 1920, new discoveries have not balanced consumption, he declared.

Since the beginning of the natural gas industry about 1885, reserves were built up year by year through new discoveries until the peak was reached in 1899, according to Roth. From then until 1912, discoveries about balanced withdrawals, and from that point on discoveries dropped off, except for the Kentucky development about 1920.

The Ohio commission's investigation, on which another week's testimony is to be taken, concerns charges for gas delivered by Ohio Fuel Gas Company or other subsidiaries of the Columbia Company to Columbus, Toledo, Parma, Elyria, Norwalk, Lorain, Franklin, Springfield, Logan, Delaware and Malta. Ohio Fuel Gas Company is collecting a 55-cent rate under bond for gas delivered at the gate in Columbus, and the case before the commission grew out of an appeal of the company from a Columbus city ordinance setting the rate at 48 cents per 1000 cubic feet.

Illinois map available

E. C. Jacobson, 530 McBirney Building, Tulsa, Oklahoma, has put on the market a new map of Illinois showing oil fields in green and gas fields in red, with an indication giving the name and location of each field. The map shows counties, county seats, townships and sections, also dry holes with elevations and depths. The scale is 9 miles to the inch.

Exhibitors' space going rapidly for Tulsa show

Tulsa. — The new outside exhibit space along the east side of the International Petroleum Exposition has practically all been sold for the tenth Tulsa oil show to be held May 14 to 21, 1938, according to Wm. B. Way, general manager.

A. J. WEIDEMAN of Mt. Pleasant, has been named by the Oil & Gas Association of Michigan to succeed Henry G. Hunt, resigned, as executive secretary of the association. Weideman, present state representative from Isabella County, has been in the drilling, contracting and producing business in Ohio, Kentucky and Michigan for 30 years. Maurice L. Guenin, assistant, will continue in that capacity. He is directing the association's field work until Weideman takes office, probably in mid-October.

Illinois Play Reaches Big Proportions and to Grow More

By Z. H. MISCHKA

The tall corn fields of southern Illinois are commanding the attention of members of the oil fraternity in all parts of the nation, and even Canada. Operators who at the turn of the century left the old Appalachian area for more promising fields in the Mid-Continent and in California, are recrossing the Mississippi and taking part in this year's boom in the coal basin of the Sucker state.

Others, skeptical that any state east of the Mississippi can play an important part in the nation's oil picture, are waiting further developments in the area that was opened by a small producer in January and that saw its first big well less than four months ago, meanwhile asking:

What is the extent of the present play? What companies are taking part? Is rotary equipment, or cable tools familiar to the old Illinois fields, being used? Are rigs plentiful? At what depth is production obtained? How many pools have been opened? How large are they? To what extent are wildcat operations being carried on? What is being paid for leases? Is promising acreage still available? What companies are represented in the lease play? In development? How many wells are producing? Drilling? How many are failures? What kind of crude is being obtained? What is it's price? How does and will it affect the market for E astern crude? Mid-Continent crude? How about proration? How is the crude transported? Where is it shipped?

THE present Illinois boom started with a gigantic leasing campaign, inaugurated almost two years ago by Carter Oil Company and Pure Oil Company, and which has since covered more than 6,000,000 acres in 40 southern counties. Present drilling activity is in an area 70 miles long and 60 miles wide, while leasing activity extends over an area 160 miles long by 80 miles wide.

Illinois entered the nation's oil picture in 1880, 57 years ago, with the Litchfield field, Montgomery County, but it was not until 1905 that important development started. In that year fields in Clark, Crawford, Lawrence and Wabash Counties were opened, bringing the state's petroleum production to a peak of 36,000,000 barrels in 1908 and giving Illinois eighth rank among the nation's oil producing states. Production in the north end of the old area was obtained at 500 feet and in the south end at 1500 feet. The state's annual output steadily dwindled and was 4,500,000 barrels last year.

Opening of the Bartelso field, 8 miles south of Carlyle in Clinton County, in April, 1936, failed to arouse more than passing interest. Production was small, the depth about 1000 feet. The producing horizon is the same as the Carlyle field, where it is called the Carlyle sand. It is the Cypress formation of the Chester series, upper Mississipian, and correlated with the Kirkwood field in Lawrence County.

This year's first discovery came on January 27, when Adams Oil & Gas Company, then known as Adams-Louisiana Oil Company, brought in its Merryman 1, opening the Patoka field of Marion County. Its initial yield was 150 barrels daily, which has dropped to 52 barrels coming through ¼-inch choke from Benoist sand of the Chester series. The sand was topped at 1391 feet and the hole bottomed at 1418 feet. There are 35 producing wells in the field now, with more than that many drilling.

Pure Oil Company opened the year's second pool near Cisne, Wayne County, with its Bradley 1, which came in at 100 barrels a day from the McClosky sand of the lower Mississippian. The sand was topped at 2982 feet and the hole bottomed at 2987 feet. The test proved the existence of oil in a deeper formation.

The current boom was given its real impetus by Pure Oil Company's discovery at Clay City, in Clay County, late in May. Its Bunny Travis 1, Clay Township, had an initial yield of 2642 barrels a day from the McClosky sand, topped at 2950 feet and penetrated 10 feet. An offset, completed a month later, the Sarah Bechtel 1, had an initial yield of 1857 barrels daily.

It was Pure Oil Company's Travis strike that speeded development plans of major companies and independents, who meanwhile had started leasing campaigns and had sent seismograph crews into the basin area. Carter Oil Company, Ohio Oil Company, The Texas Company and Gulf Oil Corporation, Gypsy Division, were the majors quick to announce first tests scheduled for the McClosky sand. Shell Petroleum Corporation and Magnolia Petroleum Company are active in exploratory work, but as yet have not announced tests.

Early in August, Ohio Oil Company added Richland County to the producing area with its Arbuthnot 1, having an initial yield of 1996 barrels daily when bottomed at 2988 feet. Whether this is a new pool or an eastward extension of the Clay City pool has not yet been determined. The areas are approximately 7 miles apart and production is from approximately the same level.

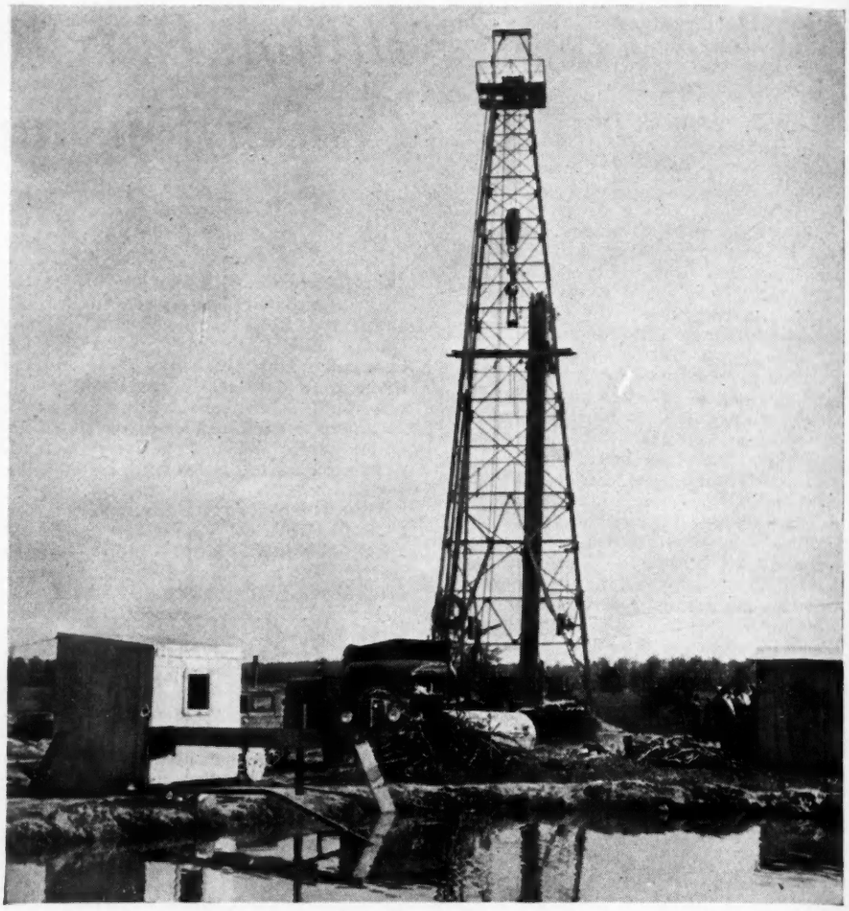
Latest wildcat find is Duncan Oil Company's Carroll 1, NE NE SE Section 8, Township 2n-8e, which extended the Clay City field 2 miles southward. Production was 1850 barrels the first 24 hours from the McClosky sand. Jubilation over the extension was cut short when the well suddenly flowed salt water instead of oil. The salt water was successfully blocked off, however,

and the well is now producing about 500 barrels of oil daily.

To the south of Marion County and southwest of Clay, the wildcat of Edward L. Dee, Mount Vernon, and Dr. W. J. Carter, Mattoon, is apparently opening Jefferson County for profitable production. Acid treatment is being given and the hole is bottomed at 2929 feet. It is believed good for 500 barrels daily.

Wildcat interest as this is written is directed toward the Myers & Fitz Shannon 1, Zif Township, Wayne County, which promises to be the beginning of another series of wells. There hasn't been a good producer drilled in hitherto unproven territory since Pure Oil Company's Bunny Travis 1 that didn't find three to six offsets staked and some drilling almost before a production test determined the wildcat's actual yield. Core taken at Shannon 1 revealed a 10-foot saturation between 3045 and 3055 feet. Casing has been set and preparations have been made to bring the well in during the week-end. The well is expected to yield upwards of 800 barrels daily.

Meanwhile, a rig is on the way from Kilgore, Texas, for use on an eighty offsetting the Shannon 1, to be drilled for Blackwell Oil & Gas Company. Other companies juggling equipment for offsets are Gulf Oil Corporation, The Texas Company and Pure Oil Company. If development of the area apparently opened by Shannon 1 follows the course set by previous successful wildcats in the basin area, and the supply of available rigs and experienced crews does not give out, at least three offsets will be drilling by the time this issue of The Oil Weekly reaches its readers—with another three to six drilling a week later.



This view of Pure Oil Company's Billington 1, which is now a producing well, is typical of an Illinois rotary drilling rig installation.

—Photo courtesy Charles Ward, Pure Oil News.

Rig Shortage

Five other wildcats in outlying portions of Richland, Wayne and Clay Counties were drilling below 2900 feet, with completion scheduled within the week. A shortage of rigs, in spite of heavy importations from the Mid-Continent and Texas fields during the past few months, threatens to curb offset activity if several or all of them prove good producers.

That the new Illinois producing area will outstrip the old field in Crawford, Lawrence and Clark Counties is no longer a matter of conjecture among oil men on the ground. Production, coming mainly from Wayne, Marion and Clay Counties at the present, and estimated a month ago at less than 10,000 barrels a day, is now estimated at over 20,000 barrels a day. Conservative observers who a month ago estimated production of 25,000 barrels daily by the end of the year now declare this point may be reached in October. Production in the old Illinois fields last year averaged 12,178 barrels daily.

Real development of the basin area has just started. It is certain that an active drilling campaign will go on for at least five years, many observers say ten. Eventual exploration of deeper formations may extend the development program indefinitely.

Dr. M. M. Leighton, chief of the Illinois Geological Survey, whose department is credited with exploratory work that started the lease play two years ago and whose findings have been borne out by recent drilling, says, "We have only begun to discover the oil resources of southern Illinois.

"This is only the beginning of one of the greatest oil developments in this country," he added, "and rapid expansion is not only probable—rapid expansion is inevitable." Referring to the McClosky sand from which main production is now being obtained, the state geologist declares there are "at

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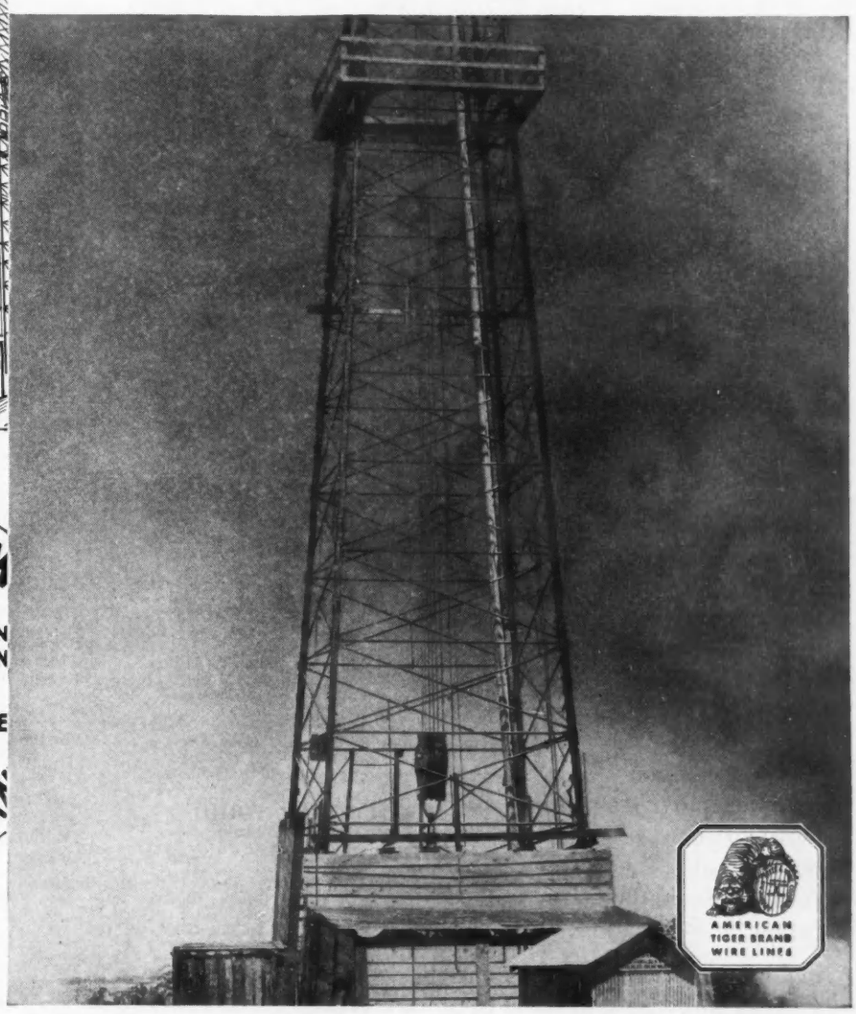

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least five other horizons below the McClosky which have unlimited possibilities. These underlying horizons have wonderful porosity, and are such as to excite the imagination beyond bounds. For this reason, it will be but a short time until the new horizons will be explored by drilling—that will tell the story."

(Other articles to appear in early issues.)

EASTERN FIELDS

Completions

WEST VIRGINIA

Company, Well and Location	Init. Prod. Bbls.	Depth
BRAXTON COUNTY—		
Pittsburgh & W. Va. Gas Co., Zack Stump 7611	¶.70	1437
CALHOUN COUNTY—		
McCall Drilling Co., J. W. Kerth 1..	¶.04	2105
Adams & Connelly, Schafer & Deems 1	*	1917
GILMER COUNTY—		
Pittsburgh & W. Va. Gas Co., G. B. Reed 1	¶.60	1761
Carnegie Nat. Gas Co., G. C. Fisher 1531	¶.05	1789
Duncan Despand 5	¶.02	1902
KANAWHA COUNTY—		
Columbian Carbon, Mary C. Young Heirs 1	¶20.00	4931
Brawley Reid Gas Co., L. E. Campbell 1	¶3.10	4900
United Fuel Gas, C. W. Shafer 4731	¶3.00	5138
Pure, Williams Coal Co. 276	¶1.25	2926
RITCHIE COUNTY—		
Patterson & Pope, H. W. Patterson 6	10	1932
Bickel Oil Co., John T. Hill 1....	5	1702
W. H. Moser, W. H. Moser 1.....	2	1886
Gostadon Oil & Gas Co., F. W. Hill 1	¶.06	2198
Philip M. Lemon, Icy V. Haught..	¶.03	1725
Moats & Richards, Clem Ingram 1..	*	1960
WETZEL COUNTY—		
C. F. Eagan, Mellott Heirs 1.....	10	2915

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ASHLAND COUNTY—		
Mehowa Oil & Gas Co., Lee Hanley 2	3	2690
ATHENS COUNTY—		
Gross & Frebault Co., C. O. Lowery 2	2	1212
Gross & McCune, Ananda Clutter 2.	¶1.55	1225
J. V. Bowman, R. A. Smith 1....	¶.14	615
D. T. Orndoff, Dowe E. Kasler 2...	¶.09	1450
COSHOCTON COUNTY—		
Preston Oil Co. J. L. Myers 2.....	45	3135
FAIRFIELD COUNTY—		
Lancaster City Gas Works, W. & J. Neubauer	¶.28	2335
GUERNSEY COUNTY—		
Geo. Kernodle, I. I. Lanning 1....	¶.15	1134
HOCKING COUNTY—		
Preston Oil, Sunday Creek Coal Co. 153	40	3678
Charleston Gas Co., J. Keppler 1..	*	2100
HOLMES COUNTY—		
S. J. Bell, Cliff Finlay	*	802
HURON COUNTY—		
Gross et al. Artemas Robbins 1....	¶	830
KNOX COUNTY—		
Knox Exploration, Robert Crider 1..	*	2880
LICKING COUNTY—		
Blue Rock Oil & Gas Co., Virgil L. Smith	35	3104
Rutledge & Mossholder Oil & Gas Co., W. E. Teagarden 1	7	668
LORAIN COUNTY—		
Wm. Dempsey, Joseph Conrady 1..	*	2375
MEDINA COUNTY—		
Ray Grimm, B. E. Grimm 7.....	8	415
MEIGS COUNTY—		
Profitt et al, J. A. Smith.....	¶.10	2043
Chase et al, L. F. Harrison 1.....	¶	675
MONROE COUNTY—		
Baker et al, Thomas Ulrich 2.....	¶.15	1791
Jim's Run Oil & Gas Co., J. H. Petty 2	*	1800
NOBLE COUNTY—		
Laws & Snangler, Wm. T. Perry 9	2	310
Barnsville Dev. Co., Leon B. Kapple.	¶.12	1675
Charleston Synd., Leow B. Gritt...	¶.10	1700
PERRY COUNTY—		
E. C. Marshall, E. Newbury 14....	2	1149
Ohio Fuel Gas, Sunday Creek Coal Co. 158	¶.18	960
Pure, Pius Snider 3.....	*	3131
STARK COUNTY—		
East Ohio Gas Co. Harvey Leohr..	¶.35	4595
SUMMIT COUNTY—		
East Ohio Gas Co., Kate Workinger 1	¶.53	4203
TUSCARAWAS COUNTY—		
Status Dev. Co., John G. Geckler 2..	¶.40	4921
WASHINGTON COUNTY—		
Montgomery et al, Wm. Gross Heirs 1	5	875
Otto Heldman, Arthur Cuthbert 1..	¶.30	1075
Snyder Oil & Gas Co., Wm. Covey 4	*	1200
WYANDOT COUNTY—		
McPherson et al, Al Williams 1....	*	2361

ILLINOIS

Company, Well and Location	Init. Prod. Bbls.	Depth
BOND COUNTY—		
Commercial Oil & Gas, Fred Baumberger 1	*	1003
CLAY COUNTY—		
Pure, Oscar Poppe 5	1212	2991
Sarah Bechtel 2	620	2970
E. Walker 2	584	2977
J. T. Palmer 1	278	2977
Noe 1	*	3014
Duncan Oil Co., Carroll 1	1226	3057
Wiser Oil Co., Damon Smith 7....	*	....
Wicklund Oil Co., Sanford 1.....	*	3160
CRAWFORD COUNTY—		
Fred Burns, Lafe Goff 1	*	968
EFFINGHAM COUNTY—		
W. H. Hazlett et al, Joseph Hearman 1	*	2100
FAYETTE COUNTY—		
Linville, Beaton & Ryer, Thompson 1	*	1498
McDONOUGH COUNTY—		
Chas. Measley, Hatch 1	1	443
Williams Bros., H. Bushnell 1.....	*	430
MARION COUNTY—		
Adams Oil & Gas, Glenn Merryman 9	125	1445
Merryman 11	*	....
L. W. Balance et al 1	84	1440
Wassem 4-A	84	1433
Coastal Prod. Co., Chandler & Porter 1	120	1450
Hausman et al, P. J. Mojonnier 2..	30	1440
Kirk Holland, Symcox 1	20	1450
L. Wassem 1	12	1463
Frederick et al, C. Adams 1.....	*	606
C. G. Evans, E. Allison 1.....	*	1717
J. Staley Drilling Co., O. Watkins 1	*	1470
Huddleston, Nottier et al 1.....	*	1460
RICHLAND COUNTY—		
R. H. Neely et al, Baughman 1....	*	2914
WABASH COUNTY—		
Patton Oil Co., A. Greemore 1.....	*	1500
Coastal Prod, Co., Fred Holson 1..	*	1610
Adams Corners Oil Co., Mark Madden 19	*	1454
WAYNE COUNTY—		
Pure, Nellie P. Mulinax 1.....	*	3144
Mammoth Producing & Refining Co., Garrison 1	*	3412

KENTUCKY

Company, Well and Location	Init. Prod. Bbls.	Depth
BRECKENRIDGE COUNTY—		
Kentucky Nat. Gas, Frank Duncan.	¶.41	585
DAVIESS COUNTY—		
Rex-Pyramid Oil Co., Alice Hinton 11	10	....
Alice Hinton 12	15	....
Ross & Henry, Berry Heirs 3.....	¶1.05	618
HANCOCK COUNTY—		
J. C. Ellis, Link Richards 19.....	50	....
Frank Damron et al, Elsie Bates 2	21	330
Heffner Heirs	5	432
McDonough & Co., Ada Frank 19..	*	....
Cumberland Pet. Co., W. C. Arrington 1	*	645
Groverly Oil Co., Baker Bros. 4...	*	645
LEE COUNTY—		
Pet. Explo. Co., G. W. Gausley 15.	20	....
South Penn Oil, Flahaven Land Co. 1	10	1009
R. T. Barnes, Alvin White 3.....	5	895
C. E. Townsend, Andrew Combs 5..	5	956
McLEAN COUNTY—		
Ellis & Huff, John Ditto 2.....	15	1607
OHIO COUNTY—		
Globe Oil & Gas, Romey Graham 22	60	....
Romey Graham 23	25	....
A. Teller, Estill Board 4.....	20	....
A. D. Noe Jr., A. S. Crawley 4....	10	769
Porter Evans, Claude Schultz 2....	¶.20	534
Sunflower Oil & Gas, W. F. Smith 6	*	760
Clark & Snyder, E. Price 3.....	*	1412
W. W. Damron et al, G. C. Rowan 1	*	1433

PENNSYLVANIA

Company, Well and Location	Init. Prod. Bbls.	Depth
ALLEGHENY COUNTY—		
O. Miller, Harry McAdams	¶	....
GREENE COUNTY—		
Greensboro Gas Co., Calvin Ulery..	*	3052
POTTER COUNTY—		
Penn York, M. Reynolds 1	¶2.40	4946
WASHINGTON COUNTY—		
Carnegie Nat. Gas, R. M. Carrons 3	¶.50	2897

*Failures; †Junked; ¶Million cu. ft. gas.

Now on the Press **READY FOR DELIVERY OCTOBER 10, 1937**

PRACTICAL PETROLEUM ENGINEERS' HANDBOOK

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Petroleum Engineer, Rio Bravo Oil Company
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W. T. DOHERTY
Division Superintendent, Humble Oil & Refining Company

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The co-authors of this volume discovered by coincidence that each had been for a period of several years accumulating practical data which through their collaboration appears in this book. Both of them are men who have not only received theoretical training but who have had many years of practical experience as engineers in dealing with every day oil field drilling and production problems.

As a result of this collaboration of effort the publishers of this volume feel that it is a most valuable contribution to oil trade literature.

Its purposes are distinctly practical. The tables, formulae, and figures shown are practical rather than theoretical in nature. It should save the time of many a busy operator, engineer, superintendent, and foreman

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- Flow of Gases
- Formulas
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CALIFORNIA FIELDS

Oxnard area getting important wildcat play.

* * *

Northwest Long Beach appears separate area.

Los Angeles.—The Oxnard area, Ventura County, is receiving one of the most important wildcat plays in California. Only one well is on production, producing a small amount of low gravity oil. Practically every major company and many independents have acreage, but most of the proposed activity is awaiting results in two holes being drilled by independents.

The well being watched the closest is Oxnard Oil Company's Vanoni 1, Section 10-1-22, located at the south end of C Street in Oxnard. This hole is bottomed at 5993 feet. An electrical tester indicated that the last 22 feet had good porosity and high saturation. When formation tester was run, a fair gas blow resulted, and later staged a small gas blowout, throwing gassy mud up into the derrick. Hole is now being reamed to bottom and will core more of the formation.

Another interesting development in this area is The Texas Company's Pierce 1, 5 miles northeast of Oxnard, drilled to 4033 feet and abandoned. The well picked up about 75 feet of the Monterey shale, but it was not productive. The Texas Company holds large acreage in the area, and plans a second test closer to the city.

Northwest Long Beach looks like a new field, not conencted with either Long Beach or Wilmington. Hilldon Oil Company completed a wildcat recently in this area for a fair production, and attention has been directed to that company's No. 2, which has bottom at 4135 feet, with 9-inch casing cemented at 4087 feet. Liner was landed on bottom, and a flow of 750 barrels of 24.3 gravity oil, cutting 2 percent, resulted after being swabbed. The flow is through 50 feet of perforated.

Hilldon Oil Company is preparing to spud Flood Control 1 in this area, and Union Oil Company is driving piling for Oil Operators 1, while Marvell Oil Company has foundation in for Christenson 1.

Hancock Oil Company and Petroleum Securities Company's joint test near Los Alamos in Santa Barbara County is coring at 6100 feet in hard gray fractured shale. This test is located in Section 6-7-32, and it is understood that a real deep test is contemplated. This hole is second to be drilled in this area, and indications have been favorable.

It is now indicated that Richfield Oil Corporation will be forced to abandon Buena Vista 1-A, wildcat, near Elk Hills in Kern County. This hole is located 330 feet south and 330 feet east from northwest corner of Section 7-31-25, and was cored to 3710 feet, encountering no showings of importance.

In the Lost Hills area of Kern County, Argo Petroleum Corporation's Farnsworth 1, Section 11-26-20, total depth 1297 feet, has been placed on the pump for 200 barrels of 14 gravity oil, cutting 30 percent of sand, mud and water. This well is in the area that has been of especial interest, since Lost Hills is an old field and its extension is being watched with interest. This hole did not extend the producing area.

Progress of the only drilling well on the Middle Dome at Kettleman Hills has been watched with interest. Temblor Oil Company's Bunting, Section 25-23-18, is bottomed at 8235 feet. Electrical tester has been run and production tests will be made of the likely zones shown up by the tester. The last 150 feet of hole cored silty gray shale with thin streaks of oil sand, showing a fairly good acetone cut.

In the Playa Del Rey area of Los Angeles County, edge test of the Playa Del Rey-Venice field, has been drilled to 7522 feet, and is to be abandoned. Top of the oil sand and conglomerate was encountered at 7504 feet, but formation tester showed only salt water.

In the Santa Maria Valley field, A. N. Macrate's Fernandez 2, Section 26-10-24, with total depth at 4620 feet, showed for a potential of 3872 barrels of 17 gravity pipe line oil. Shut in, it shows 225 pounds on the tubing and 1000 pounds on the casing. This well offsets Bush-Hancock's Rosenbloom 1, Union Oil Company's Bradley Lands 1, and Bush-Hancock's Bradley Lands 1, all good wells. In the same field, Signal Oil & Gas Company has spotted locations for three wells in Section 26-10-34, offsetting Bush-Hancock's Bradley Lands 1. Navy Oil Company has leased from J. E. O'Donnell Lots 28 and 56, Paderewsky subdivision, in the same area of Union Oil Company's O'Donnell holdings.

In the Eureka gas area of Humboldt County, The Texas Company's Eureka 2, Section 22-3-1 total depth 7708 feet, tested good for 186,000 cubic feet of gas in 4 hours, but it failed to hold up. The well shows a good response after being closed in, but dwindles fast when opened. The hole had been plugged to 5737 feet.

In the Newhall area, where Barnsdall Oil Company completed a small producer, Holbrook Petroleum Company's Newhall Land 1, Section 28-4-16, with bottom at 6224 feet, will test various zones which showed some promise when electrical tester was run. It is possible this company will drill a second test. The company is financed by members of the Los Angeles police department.

Barnsdall Oil Company's second test for Newhall, Rancho San Francisco 2, Section 26-4-17, reached 5090 feet, and then ran into a fishing job. Last casing cemented in this hole was 16-inch at 200 feet.

In the old Richfield field in Orange County, Union Oil Company is drilling a deep test, known as Chapman 29. Bottom of 8610 feet was reached, and the hole was then redrilled to 7515 feet, and 8⅝-inch cemented at 7614 feet.

In the Dunnigan Hills in Yolo County, Standard Oil Company's Peter Cook 1, Section 32-12-1w, with bottom at 2787 feet, will not be abandoned as reported recently. Top of the Cretaceous was found at 2150 feet, and the hole will be cored ahead.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DOMINGUEZ—		
Union Oil Co., Callender 54	1595	7697
EL SEGUNDO—		
Royalty Service Corp. No. 2	300	7367
The Texas Co., Security 3	445	7162
Security 4	2500	7233
PLAYA DEL REY—		
Union Oil Co., Del Rey 19	240	6213
ROSECRANS—		
Barnsdall Oil Co., O'Dea 17	140	7080
WILMINGTON—		
General Pet., Ford 20	5700	4100
Ford 23	195	2950
McDonald & Burns, Banning 1	430	3620
Pacific Western Oil Corp., Weldt Com. 1	300	2965
Royalty Service Corp., Santa Fe A-4	215	3601
Union Pacific Ry. Co., Offset 20	7715	4090
Offset 58	975	3080
FRUITVALE—		
Siemon Bros. & Associates, Krebs 1	100	3980
Western Gulf, K.C.L. B-27	250	3898
LOST HILLS—		
Argo Pet. Corp., Farnsworth 1	200	1297
MIDWAY SUNSET—		
Lilly Oil Co., No. 2	175	2357
Texas Co., Midway 24	200	3155
MOUNT POSO—		
Vedder Pet. Corp., Lambert 29-1	200	1795
SANTA MARIA VALLEY—		
A. N. Macrate, Fernandez 2	3870	4620
Ohio Oil, Moretti 1	145	3971
Union Oil, Battles 4	100	2709
FRUITVALE—		
Shell, Bellevue A-36-31	*	9185
KERN COUNTY—		
Sunset Oil Co., Sunset-Starr 1	*	6794
Richfield, Buena Vista 1-A	*	3710
Freemont Oil Co., Olcese 1	*	2820
VENTURA COUNTY—		
The Texas Co., Pierce 1	*	4042
KINGS COUNTY—		
T. G. Norell, Guess 1	*	6180

*Failures; †Junked; ¶Million cu. ft. gas.

IMPORTANT WILDCAT TESTS

ALABAMA

CHOCTAW COUNTY—Joe Modisett et al's McCorvey 1, se sw sw 20-9n-2w, elev 120 ft, top Selma chalk 1865 ft, top Eutaw 2913 ft, top Tuscaloosa 3525 ft, top upper Cretaceous marine formation 4100 ft, setting 9-in csg after running electrical tester, td 4528 ft.

GREENE COUNTY—Greene County Dev. Co.'s R. C. Lett 2, se nw 5-21n-2e, sd 115 ft.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, sd 4975 ft.

ARKANSAS

CROSS COUNTY — Manning & Martin's Park-Gieseck 1, nwc ne ne 4-6n-5e, 10-in csg 754 ft, dr 3176 ft shale.

CLEVELAND COUNTY—J. R. Lockhart's Hernsberger 1, se ne 16-11-13, dk.

COLUMBIA COUNTY—Standard of La.'s McKean 1, c sw sw 8-16-22, 9⅝ in csg 4692 ft, dr 6387 ft. Tidewater-Seaboard's C. N. Crumpler 1, nec sw 24-17-19, cemtd 13⅜ in csg 1430 ft. Kerr Lynn & Co.'s Barnett 1, sw ne 14-17-20, rur.

CRITTENDEN COUNTY — Stanley Oil Corp.'s D'Anna 1, 18-8-9, arr test so 1387 ft.

DREW COUNTY—Sloan Wells et al's Hardy 1, sec nw 3-14-7, rur.

HEMPSTEAD COUNTY—Easton, May & Murdock's R. M. LaGrone 1, ne ne 5-12-16, fsg, td 2944 ft, dark red shale.

LONOKE COUNTY—Frank Silver's Chambers Est. 2, sw ne nw 17-2-7, sd 1500 ft. Al Demur's High 1, ne sw 25-1n-9w, sd 512 ft. Jas. E. Russell's Gunter 1, 17-5-10, dk.

LINCOLN COUNTY — Fitzwater, Inc.'s Owen 1, nw sw ne 26-9-8, mim.

NEVADA COUNTY—W. E. Lokey, Tr.'s Purifoy 1, ne ne 17-11-120, sd 1630 ft. A. M. Lacey's Bennett 1, c sw ne 28-14-22, rur. Union Drlg. Co.'s R. W. Fuller 1, nec se 6-13-21, 10-in csg 120 ft, dr 1125 ft.

OUACHITA COUNTY — Copenhaver Oil Corp.'s J. E. Evans 1, ne sw 20-11-19, elev 154 ft, co 1730 ft. Benedum & Trees Oil Co.'s G. W. Slaughter 1, nw nw 24-14-19, spd.

UNION COUNTY—E. M. Jones' Marine Oil Co. 1, 17-18-17, elev 238 ft, logged 51 ft formation so, cemtd 7-in OD csg on bottom, flowing 1850 bbls fluid daily, 70 percent oil, td 7615 ft. Lion O. R. Co.'s Morgan A-1, 18-18-17, fsg 6195 ft. W. D. Wingfield's Southern Kraft 1, sw ne 18-16-14, elev 124 ft, cored gray and green sand no show 5197-5215 ft, fsg 5330 ft shale, streaks anhydrite. I. J. Langley's K. K. Langley 1, nw se ne 1-19-18, lcn. Phillips Pet. Co.s Ed Gan 1, sw se ne 18-18-17, elev 232 ft, owdd, td 6061 ft.

CALIFORNIA

FRESNO COUNTY

JACALITOS HILLS—Jacalitos Pet. Corp.'s No. 1, 14-21-15, foundation.

HURON—Pure's S. P. 1, 31-18-17, lcn.

KERN COUNTY

LERDO—Arkelo Pet. Co.'s Arkelo 41, 23-28-26, td 10,056 ft, redr to 7882 ft, fsh 2600 ft.

McKITTRICK—Birch Ranch Oil Co.'s Lovitt 1, 10-30-21, dr shale 3690 ft. H. H. Bell et al's No. 1, 6-31-22, rigging cable tools. Rocima Oil Co.'s No. 1, 20-30-22, materials.

WASCO—Continental's K. C. L. A-2, 8-27-24, dr shale 10,900 ft. Seaboard-Tide Water Associated's K. C. L. C-1, 26-27-24, sd 10,213 ft.

ROSEDALE—Continental's K. C. L. B-1, 12-29-26, td 10,205 ft, redr to 6782 ft, fsh.

DEVIL'S DEN—Den Pet. Co.'s Bates 1, 20-25-19, td 4716 ft, ran formation tester, open 6 hrs, mud, water and trace oil. Geo. Goodrum's Baron 1-A, 24-25-18, abnd 190 ft.

ROUND MOUNTAIN—Freemont Oil Co.'s Olcese 1, 26-28-29, abnd 2820 ft.

ARVIN—General's Houchin 1, 27-31-29, dr shale 6540 ft.

BELRIDGE—General's St. Helens 1, 12-28-20, rur.

STRAND—Ohio's K. C. L. E-3, 14-30-25, dr shale 1217 ft.

KERN FRONT—Pacific O. & G. Dev. Co.'s Davidson 1, 36-27-27, td 2849 ft, ran formation tester, gassy mud, sd.

ROUND MOUNTAIN—Rudolph Pageman's No. 1, 10-28-29, rig. Tampico Pet. Co.'s Goodnight K-3, 17-28-29, dr silt 1746 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so&g—*show oil and gas.*
fsg—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

ELK HILLS—Richfield's Buena Vista 1-A, 7-31-25, abnd 3710 ft.

MOUNTAIN VIEW—Section Six Oil Co.'s Johnston 1, 6-31-29, dr shale 5067 ft.

FRUITVALE—Shell's Bellevue A-36-31, 31-29-27, abnd 9185 ft.

KERN RIVER—Sleeper Ridge Oil Co.'s No. 1, 15-29-28, dr boulders 510 ft.

SEMITROPIC—Standard's K. C. L. 15, 27-30-26, lcn.

McGUNDEN—Standard's Routzong 1, 2-30-28, rur.

McFARLAND—Stone & Freid's No. 1, 34-25-25, rig.

GREELEY—Superior Oil Co.'s K. C. L. 9, 3-30-26, dr shale 6930 ft, top Miocene at 6708 ft.

SOUTH MARICOPA—Texas Co.'s Pioneer 1, 33-11-23, dr shale 2717 ft.

MOUNT POSO—Trico O. & G. Co.'s Allen 1, 20-26-28, abnd 1870 ft.

RIO BRAVO—Union's Kernco 1-34, 34-28-25, dr 10,648 ft.

KERN RIVER—Well Developers' Detert 1, 16-28-28, dr shale 2863 ft.

MISCELLANEOUS

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, td 7708 ft, plug 5737 ft, flowed 186,000 ft gas, pressure built up to 1850 ft, shut in.

MADERA COUNTY—Seaboard's Associated-General 1, 27-12-15, dr shale and sand 5591 ft.

SAN MATEO COUNTY—Wilshire's Cowell 1 (Half Moon Bay), 20-6-5, dr shale 1021 ft.

SOLANO COUNTY—Amerada's S & S J 1, 24-4-2, rig.

TULARE COUNTY—Magnet Oil Co.'s A. O. G. 3 (formerly Amalgamated Oil), 29-24-24, dr shale 6018 ft. Standard's Morris 1, 36-24-23, dr shale 8093 ft.

YOLO COUNTY—Standard's Peter Cook 1 (Dunnigan Hills), 32-12-1, td 2787 ft, ran formation tester, slight gas below 1897 to 1950 ft, and 2105 to 2140 ft, some salt water, deepened to 2787 ft, ran formation tester, salt water, coring; Hooper 1 (Woodland), 32-9-1, td 3875 ft, plug 3580 ft, to redr.

MONTEREY COUNTY—California Oils' No. 2 (Parkfield), 33-23-15, lcn.

SAN LUIS OBISPO COUNTY—Hancock Oil Co.'s Dicks 1, 30-12-33, dr fractured shale 2230 ft. A. O. Lewis' Pecho 1, 34-30-10, td 2750 ft, bailing. Vanguard Oil Co.'s Clark 1, 26-27-14, spudded, dr water well.

SANTA BARBARA COUNTY—E. C. Arnold's Apache 2, 8-8-33, td 6374 ft, ran 1575 ft 5-in liner including 1520 ft of perforated landed on bottom, swabbed 350 bbls, cut 90 percent, lowered tubing and made 100 bbls 19 gravity oil net, cut reduced one-half. O. C. Fields' Santa Rita 1, 11-7-33, dr shale 3190 ft. Caviota Oil Co.'s Hollister 1 (near Point Concepcion), 35-5-33, td 3207 ft, top oil sand 3201 ft, ran formation tester, all gas, no oil, to set 8⅝-in at 3200 ft. Hancock Oil Co.'s Los Alamos 2, 6-7-32, td 6100 ft, to deepen. Mid-Western Oil Co.'s No. L-1, 28-4-27, co 2054 ft. Tide Water Associated's Leonis 1, 3-6-33, dr serpentine and conglomerate 3415 ft. United Western Oil Co.'s No. 1, 16-7-30, td 550 ft, wocs 20-in 147 ft. Vista Del Mar Oil Co.'s Williams 1, 16-4-26, dr red shale 3932 ft.

SANTA CRUZ COUNTY—Elba Oil Co.'s Elba 1, 6-12-1, td 3968 ft, in oil sand, wocs 8⅝-in at 3870 ft.

VENTURA COUNTY—Oxnard Oil Co.'s Vanoni 1, 10-1-22, td 5978 ft, ran electric tester and also formation tester, indicating good porosity and high saturation, and also blow of gas. Seven Seas Oil Co.'s Johnson 1, 15-1-22, td 1038 ft, wocs 13⅜-in at 953 ft. Vaca Oil Exploration's Livingston 1, 6-1-21, dr shale 4056 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall's Rancho S. F. 2, 26-4-17, td 5090 ft, fsh dr pipe. Holbrook Pet. Co.'s Newhall Land 1, 28-4-16, td 6224 ft, plug 5780 ft, testing by stages, no results. Risdon & Henderson's No. 1, 23-3-16, lcn.

PUENTE—Camroo Oil Co.'s Stern 1, 33-1-9, dr sand and shale 1150 ft.

NORTH LONG BEACH—Geo. L. Clayton's Clayton 1, 32-3-12, dr sand and shale 5800 ft.

NORTHWEST MONTEBELLO—Frank Fuller & Associates' Garvey 1, 27-1-12, rig.

PLAYA DEL REY—Robt. C. Hall's No. 1, 22-2-15, lcn.

PALOS VERDES—Hunter-Devlin & Associates' No. 1, 17-4-14, dr shale streaks sand, showing gas, 4295 ft.

WALNUT—Julian & Criswell's Langstaff 1, 5-2-9, dr shale, streaks hard sand, 2506 ft.

PALOS VERDES HILLS—McClaren Bros.' No. 1, 27-4-14, td 3970 ft, redr to 1870 ft, co; No. 2, 27-4-14, rig.

CASTAIC — Royal Lands Corp.'s Romana Hills 1, 8-4-17, rig.

DEL REY-VENICE—Sharby Oil Co.'s Santa Monica Dairy 1, 22-2-15, td 7522 ft, top conglomerate 7504 ft, to test.

OLINDA—Amalgamated Oil & Gas Corp.'s Parr Com. 1, 22-3-9, lcn.

SUNSET BEACH—A. S. Johnston Dr. Co.'s No. 30, 20-5-11, dr sandy shale 5820 ft.

ANAHEIM—Shell's Harbeson 1, 9-4-10, dr shale and gray sand 5966 ft.

TUSTIN—West American Oil Co.'s Irvine Ranch 1, 14-5-9, td 6070 ft, redr at 3960 ft.

FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se se 17-24s-25e, elev 120 ft, arr acidize and re-test at 2600 ft, old td 6126 ft.

LEVY COUNTY—Fla. Oil Discovery Co.'s Sholtz 2, sw ne 9-15s-13w, elev 25 ft, dr 525 ft.

NASSAU COUNTY—St. Mary's River Oil Corp.'s Hilliard Turpentine Co. 1, nw nw se 19-4n-24e, dr 3280 ft broken white lime.

SUWANEE COUNTY—Wm. G. Blanchard et al's Lucy Cotton 1, se ne 35-3s-11e, elev 70 ft, dr flint boulders 115 ft.

KANSAS

BARBER COUNTY — Olson-Skelly's Elsea 1, sw se nw 27-32s-14w, dr 4612 ft. Helmerich & Payne et al's Blunk Estate 1, cse 18-34s-13w, dr 3385 ft. W. I. Southern, Inc.'s Davis 3, se se ne 24-34s-15w, dr 4862 ft. Kansas Oil Corp.s Mease 1, ne se se 27-30s-11w, rig.

BARTON COUNTY—Ralph Wixon et al's Buhrle 1, se se ne 14-16s-13w, dr 3075 ft. Armes and Vernon O&G Co.'s Persons 1, sw sw se 7-17s-13w, fsg 2835 ft. Vickers Pet. Co.'s Lucas 1, nw nw ne 16-17s-14w, dr 3240 ft. C. L. Price et al's Hammeke 1, ne ne sw 12-18s-12w, 1800 ft oih. Brouk & Nat'l Ref. Co.'s Gory 1, nw nw sw 10-17s-13w, dr 1170 ft. Shell's Peterman 1, se ne se 13-16s-14w, dr 2767 ft. Arch Merriam et al's Norris 1, ne ne nw 33-17s-11w, lcn.

BUTLER COUNTY—Rex & Morris et al's Stephens 1, sw sw se 35-23s-3e, dr 2260 ft.

CHAUTAUQUA COUNTY—C. L. Brosius et al's Garrett 1, nw sw nw 26-32s-11e, td 1940 ft, pb to 1545 ft. Craft's Lagree 1, se nw ne 8-32s-12e, est 4 bbls oil per day. Robinson et al's Foster 1, sw sw sw 6-33s-12e, P. 15 bbls oil, 12 bbls wtr daily, comp. Harrison et al's Brown 1, ne se ne 19-34s-10e, sd 510 ft. S. H. Vieard's Hughes 1, ne ne se 13-32s-12e, dr 150 ft. W. G. Buffington's Fisher 1, cwl sw nw 10-34s-9e, dr 1050 ft.

COWLEY COUNTY—E. B. Shawver et al's Fee 1, nw ne se 3-30s-4e, pot 96 bbls oil, comp. Pryor & Lockhart's Brown 1, ne se se 34-33s-3e, dr 2295 ft. G. M. Smith and C. L. Price' Henderson 1, sw sw sw 25-32s-6e, lcn. Arthur Brewer Co.'s Starkey 1, sw sw ne 16-30s-4e, dr 1550 ft.

ELLIS COUNTY—Earl Wakefield et al's Burnett 1, nw nw ne 1-11s-18w, hfw 3290-92 ft, ur 6-in csg. Billings' Smith 1, se se nw 14-

12s-16w, P. 7 bbls oil per hr, last 48 hrs, comp for old pot of 572 bbls oil. Lario O&G Co.'s Ball 1, nw nw ne 8-12s-18w, dr 1725 ft. P. G. Reynolds et al's Karlin 1, nw nw nw 13-12s-18w, dr 2330 ft. L. M. Reynolds et al's Polcyn 1, se se ne 24-13s-16w, dr 2616 ft. Brunson Drlg. & Glimac Oil Co.'s Weisner 1, se sw se 31-13s-17w, dr 3100 ft. Buffalo Oil Co.'s Phillips 1, ne ne ne 18-14s-16w, dr plug and co to btm, sso.

ELK COUNTY—Coronado Oil Co.'s Atkinson 1, sw ne sw 22-29s-10e, abn 1400 ft.

ELLSWORTH COUNTY—Equity Gas Co. et al's Razac 1, ne ne se 31-15s-10w, co 3002 ft. Colonial Oil Co.'s Hogy 1, nw nw sw 16-16s-10w, ru. Hinkle et al's Alden 1, se se sw 17-17s-10w, sp. Hinkle et al's Andrea 1, ne ne se 17-17s-10w, br.

GRANT COUNTY — United Prod. Co.'s Blake 1, csw 21-30s-36w, pb 2570 ft, 2,300,000 cf gas 2540-50 ft, comp. Panhandle Eastern P. L. Co.'s Taggert 1, C sec 11-30s-37w, testing.

GRAY COUNTY—P. G. Reynolds' Watkins 1, csw 32-28s-28w, ru.

GREENWOOD COUNTY—Ward McGinnis et al's Henley 1, sw sw sw 25-25s-9e, set 6-in csg, woc. Eagle Oil Co.'s Stine 1, ne ne se 13-28s-10e, ru mach. S. Van Devanter et al's Dover 1, ne se sw 12-28s-11e, dr 615 ft.

JACKSON COUNTY—Lemmick Oil Co.'s Marble Savings Bank 1, cne ne 26-9s-14e, rig.

KEARNEY COUNTY—J. L. Murphy's Masonic Home 1, cne 1-26s-36w, set 8-in csg 1465 ft, co.

KINGMAN COUNTY — Carter's Davis 1, ce½ ne ne 24-28s-8w, dr 3563 ft.

LYON COUNTY—Davis & Sory's Davis & Sory 1, sw sw se 32-21s-11e, pumping.

MARION COUNTY—Hutchinson O&G Co.'s Ehrman 1, se se sw 15-18s-1e, abnd 3430 ft. Western Kan. O. & Ref. Co.'s Suderman 1, se sw nw 22-20s-2e, hfw 3025 ft.

McPHERSON COUNTY—Clyde Pulse et al's Boesker 1, se se nw 29-20s-1w, rig. C. R. Craft et al's Barnholt 1, sw sw se 30-20s-5w, P. 115 bbls oil, 9 hrs, sd. Boyle & Grossman's Diener 1, se se ne 35-19s-1w, dr 535 ft.

MEADE COUNTY—Pacific Mid-West Oil Co.'s Rexford 1, ne se sw 8-30s-29w, dr 900 ft.

NESS COUNTY—Jones & Lanes' Page Milling Co. 1, se se nw 36-18s-26w, dr 1860 ft.

OSBORNE COUNTY—Fred C. Chaddox & Atlantic's Slater 1, ne sw ne 33-10s-15w, co 2490 ft. F. E. Fullerton & Son's Moray 1, ne se sw 27-10s-12w, woc.

PRATT COUNTY—Atlantic, Cities Service and Skelly's Runyon 1, sw nw ne 11-27s-13w, td 4437 ft, 3500 ft wih, pb to 4297 ft. Skelly et al's Adams 1, se nw ne 2-28s-11w, dr 3915 ft. Stanolind's Hartsell 1, nw nw sw 14-26s-12w, dr 1575 ft.

RENO COUNTY—Sam Schneider et al's Kroecker 1, ne ne ne 12-22s-5w, dr 1965 ft. Butler & Street's Kincaid 1, ne ne nw 13-24s-4w, rig. W. E. Witt et al's Fair 1, nw se se 4-22s-8w, fsg 2425 ft. Cohen et al's Teter 1, se se sw 3-23s-5w, rig.

RICE COUNTY—Skiles et al's Campbell 1, se se ne 28-19s-9w, ur 8-in csg 2472 ft. H. V. Holland et al's Brothers 1, se se se 12-21s-7w, Pot. 627 bbls oil and 1 percent wtr, comp. Oread Oil Co.'s Erion Estate 1, nw nw nw 34-21s-7w, lcn. Bell O&G Co. et al's Timbers 1, nw nw ne 8-21s-8w, rig. Elbar Corp.'s Ehlers 1, ne ne se 8-21s-9w, rig.

ROOKS COUNTY—W. W. Kiskadden et al's Ham 1, sw sw nw 25-7s-19w, ru. Graham et al's Fike 1, sw sw sw 9-9s-17w, td 3326 ft, co. C. R. Craft et al's Ziegler 1, ne ne sw 8-10s-16w, set 8-in csg 2860 ft, co. J. H. Lester's Methany 1, se se ne 29-20s-10w, co 3875 ft.

RUSH COUNTY — Wakefield & Brouk's Kerbs 1, nw nw se 11-17s-16w, rig.

RUSSELL COUNTY—Cities Service and Texas Co.'s Boxberger "B" 1, ne ne ne 23-13s-15w, dr 2525 ft. Cities Service et al's Eichman 1, csw sw se 12-15s-14w, dr 1965 ft. Phil-Han Oil Co.'s Deines 1, ne ne nw 33-14s-14w, rig. Trapp Drlg. & Ramsey's Polcyn 1, ne ne se 34-14s-15w, dr 810 ft. Murfin & Vernon O&G Co.'s Pearson 1, ne ne ne 31-15s-15w, br. Parks et al's Gorham 1, sw nw ne 35-15s-15w, cel. C. L. Price' Sebesta 1, ne ne ne 36-15s-11w, br.

SEDGWICK COUNTY—Nat'l Ref. Co.'s Fee 1, se ne se 36-27s-2e, ur 12-in csg 1080 ft. I. W. Murfin et al's Martin 1, se se nw 32-28s-1e, dr 1610 ft. W. C. Talbott et al's Downs Estate 1, se se nw 32-28s-2e, 7,500,000 cf gas and 820 lbs. pres. Union O&R et al's Howell 1, sw sw sw 6-29s-1e, dr 1275 ft. Fulton et al's Fee 1, ne ne se 35-28s-1e, fsg 765 ft. McKnabb et al's Garrett 1, se sw sw 18-29s-2e, sp.

SHERMAN COUNTY—R. E. Parrish' Pizzel 1, ne ne se 15-6s-42w, lcn.

STAFFORD COUNTY—W. P. Faulkner's Moses 1, nw nw sw 9-22s-13w, dr 905 ft. Stanolind et al's Hartnett 1, nw nw se 23-24s-11w, Pot. 974 bbls oil, comp. Kessler O&G et al's Jenkins 1, se se ne 15-25s-12w, dr 3190 ft. E. J. Shaffer's Spencer 1, nw nw sw 3-25s-14w, dr 4250 ft. Fred P. Rust et al's Wm. Johnson 1, nw nw sw 29-25s-12w, dr 1800 ft.

SUMNER COUNTY — W. M. McKnab's Blair 1, sw sw sw 7-30s-1e, dr 3100 ft. R. J. Wixon's Newton 1, se se se 21-30s-2e, set 10-in csg 1975 ft. Magnolia Pet. Co.'s Baird 1, sw se se 2-30s-4w, set 16-in csg 295 ft, woc.

TREGO COUNTY—Phillips' Trego 1, cne nw 14-12s-23w, dr 3853 ft. Central Commercial Oil Co.'s Locker 1, csw 12-14s-22w, dr 2215 ft. F. L. Thorn et al's Koeppen 1, se se sw 31-14s-24w, run 5-in csg. Thurman Hill et al's Lawson 1, sw sw nw 7-14s-22w, set surf pipe. R. E. McNely et al's Hille 1, cse ne 22-15s-24w, lcn.

WALLACE COUNTY—H. F. Wilcox O&G Co.'s Parker 1, se se ne 9-11s-40w, rur.

WOODSON COUNTY—Ward McGinnis et al's Smith & Jobes 1, nw nw se 10-24s-15e, td 1633 ft, gso and woc. Fred Rapp's Houghland 1, nw nw se 2-25s-15e, dr 1520 ft. Becker Bros.' Vann 1, cnw nw sw se 22-25s-14e, running 6-in csg 1100 ft. Seibel's Kerschner 1, cnl ne ne 3-26s-15e, dr 1489 ft. Steinle's Kash 1, se se se 4-26s-15e, dr 1570 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so&g—*show oil and gas.*
fsg—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

NORTH LOUISIANA

BIENVILLE PARISH—DeSoto O&G Co.'s Wm. Asley 2, c sw se 15-16n-10w, mim. Hunt & Seaboard's Commercial Bank 1, c ne nw 3-16n-6w, elev 241 ft, massive anhydrite 5270-5510 ft, saturation 6736-76 ft, 7-in csg on bottom, td 6801 ft, perforated csg 6780-89 ft with 19 shots, flowing gas and wash water, not gauged, td 6801 ft. Gulf Oil Corp.'s Good Pine Oil Co. Inc. 1, se sw 25-14n-8w, rur.

BOSSIER PARISH—L. W. Dennis' D. T. Roos 1, sw nw nw 13-19n-12w, rur.

CADDO PARISH—W. J. Hunter et al's N. B. Stoer 1, nw sw ne 10-15n-15w, elev 257 ft, perf csg 5100-20 ft, showed gas & sw, pulling liner to re-set packer to shut off water, old td 6562 ft. Prairie River Synd.'s Hutchinson 1, sw nw 15-15n-12w, elev 153 ft, top lower Marine 8380 ft, top Bodcaw sand 8775 ft, running formation tester td 9024 ft.

CONCORDIA PARISH—E. A. Addy et al's Pasternack 1, c nw sw 49-8n-9e, spd & sd.

CLAIBORNE PARISH—J. R. Bevill et al's Alex Edmonds 1, ne ne 16-20n-5w, elev 160 ft, pumped and flowed by heads, installing new pumping unit, td 5413 ft. Hal Compton's T. M. Kilgore 1, ne ne 12-20n-5w, mim. J. B. Bond's Burgess 1, ne se ne 3-20n-5w, elev 276 ft, 5¾-in csg 5276 ft, pb to 5325 ft, acidized and swabbed and flowed, installing pckr old td 5800 ft. Lyons & Neely's Simms 1, c ne ne 32-20n-5w, dr 3460 ft. W. L. McClanahan et al's J. T. Lewis 1, sw se 25-20n-7w, rur. United Gas' Stevenson 1, se sw se 6-19n-5w, setting csg td 5670 ft. Brownfield 1, nw ne 6-19n-5w, dr 5335 ft, lime and shale. Hollyfield & McFarlane's Patton 2, nw ne ne 2-20n-5w, rur.

DE SOTO PARISH—Pullman Oil Co.'s J. W. Ramsey 4, ne se nw 36-11n-11w, tested sw sd 2934 ft. Clear Lake Oil Co.'s J. A. Woolums 1, nw nw 29-12n-12w, dr 1920 ft.

LINCOLN PARISH—Burford et al's P. N. Hanna 1, w½ se 34-18n-4w, elev 269 ft, tested 2800 ft, sw sd 6535 ft. T. L. James & Co.'s Spencer 1, c w½ ne 11-17n-4w, elev 365 ft, massive anhydrite 4892-5200 ft, tested est 15 mil ft gas & 10 joints mud in 15-min drill stem test 6340-6619 ft, missed 3 other drill stem tests, sd 6619 ft. Ludel Oil Co.'s Gill 1, c ne ne nw 36-20n-2w, elev 249 ft, massive anhydrite 3698-3945 ft, dr 5050 ft. E. H. Moore's Commercial Bank-Williams 1, nw nw 22-18n-5w, sd 600 ft, for water.

RED RIVER PARISH—Whitehurst et al's LeLong 1, ne nw ne 25-12n-11w, woc 250 ft. W. J. Hunter's Long-Bell Lbr. Co. 1, sw nw 20-13n-9w, tested 4 joints oil 2 of sw 3650 ft, dr 3990 ft, shale.

SABINE PARISH — E. Howard's Sabine Lbr. Co. 1, ne nw 24-9n-12w, ru & sd. Romine et al's La. Long Leaf Lbr. Co. 1, sw sw 7-5n-12w, woc 12½-in csg 92 ft. Odell Hinson's Long-Bell Lbr. Co. 1, 5-8n-13w, acidized, flowed short time, hfo, wosr, td 1811 ft. Fox and Phillips' Cook Land Co. 1, 1-9n-12w, mim.

UNION PARISH—Joe Modisett's Frost Lbr. Co. 1, ne sw 14-21n-1e, rur, (7000 ft test).

WEBSTER PARISH—V. L. Foster's J. M. Mixon 2, c se se 21-21n-10w, dr 4480 ft. Magnolia Pet. Co.'s Aarnes-Cox 4, sw ne ne nw 22-21n-10w, elev 196 ft, 9⅝-in csg 5855 ft, dr 6080 ft. Ohio Oil Co.'s Bodcaw Acct. 2, 47, c sw se 15-21-10w, elev 200 ft, dr 7890 ft. S.P.D. Coyle & W. Cox 1, c sw se 23-21n-10w, elev 211 ft, dr 6746 ft; T. Crichton 1, Acct 2, c se ne 21-21n-10w, elev 217 ft, dr 7995 ft; R. L. Holloway B-7, c sw ne 23-21n-10w, elev 196 ft, dr 7683 ft; D. W. Merritt 1, c sw sw 14-21n-10w, elev 189 ft, dr 6722 ft. A. G. Oliphant et al's Sam Banks 1, c ne ne 34-21n-10w, elev 196 ft, dr 7315 ft, lime and shale. Standard of La.'s Davis 7, c ne nw 23-21n-10w, elev 196 ft, dr 5890 ft; Mrs. M. E. Gray 2, c ne nw 26-21n-10w, elev 237 ft, dr 5904 ft. United Gas' J. M. Mixon 2, nw sw 22-21n-10w, rur. J. H. Tillman 6, ne ne 28-21n-10w, rur. Woodley Pet. Co.'s R. R. Cox B-2, sw sw 23-21n-10w, elev 229 ft, dr 7450 ft; Gray B-5, sw ne 27-21n-10w, rur.

SOUTH LOUISIANA

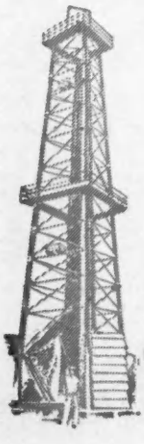
ACADIA PARISH—W. C. Daniel's Setting 1, Trilby area, 17-9s-1w, sd 5119 ft. Humble's Federal Land Bank 1, North Crowley area, 34-8s-1e, comp 8102 ft, 679 bbls daily; same operator's Sarver 1, South Crowley area, 35-10s-1e, dr shale 6991 ft. Magnolia's Duson 1, Iota prospect, 14-8s-2w, fsh 350 ft. J. G. Markley et al's Daigle Farm 1, Churchpoint area, 19-7s-2e, coring sand with faint odor of oil at 5480 ft.

CALCASIEU PARISH—D & D Oil Co.'s Lutcher Moore 2, nw of Starks, 1-8s-13w, dr cement plugs, 8340 ft.

CAMERON PARISH — Humble's Miami Corp. 1, Premo area, 8-14s-5w, dr shale 1035 ft. Pure's State Mallard Bay 2, Mallard Bay prospect, 14-13s-3w, dr shale 8605 ft. Superior's Gulf of Mexico 1, in Gulf of Mexico, 4-15s-8w, mim.

EVANGELINE PARISH—Continental's Tate 1, Villa Platte area, 44-3s-2e, comp 265 bbls daily at 9035 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 414, Jefferson Island dome, 12s-



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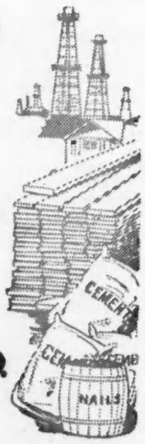


S *AFE at any depth.*

I *ncrease drilling speed.*

E *asy to change cutters.*

V *ertical hole assistance.*

E *conomical in service.*

R *eam round, full-gauge hole.*

S *tabilize bits & barrels.*

R *educe danger of twist-offs.*

E *liminate "tight" holes.*

A *ngle of cutters correct.*

M *aximum wall contact.*

E *ffective in all formations.*

R *elieve "walking" of bit.*

S *hear and slice evenly.*

5e, perforating casing from 6570 to 6578 ft. Texas Co.'s State Vermilion Bay 2-B, in Vermilion Bay, 20-15s-6e, dr shale 4617 ft.

JEFFERSON PARISH—Triangle Oil Co.'s Carroll 1, 125-12s-11e, dr shale 3568 ft.

JEFFERSON DAVIS PARISH—Union Sulphur's T. R. S. Farms 1, South Roanoke area, 23-10s-4w, woc 8596 ft.

LAFOURCHE PARISH—Amerada-L. L. E.'s South Coast 1, Raceland area, 34-15s-19e, dr shale 6966 ft. Gulf's State PP 3, Timbalier Bay, 36-23s-21e, repairing boilers at 6961 ft.

PLAQUEMINES PARISH—Gulf's State QQ 3, Quarantine Bay, 17-19s-17e, dr shale 5510 ft.

ST. BERNARD PARISH—Southern Sulphur Co.'s State 2, Lake Borgne, 38-14s-15e, sd 3448 ft.

ST. JAMES PARISH—Continental's Realty Operators 1, Hester dome, 17-12s-5e, lcn.

ST. MARTIN PARISH — Texas Co.'s St. Martin Land 10, Henderson dome, 15-8s-7e, fsh 5360 ft.

ST. MARY PARISH — Petroleum Heat & Power Co.'s Parro 1, nw of Charenton, 9-13s-9e, lcn. Texas Co.'s State Bateman Bay 1, South of Morgan City, 21-16s-12e, dr shale 11,139 ft.

TERREBONNE PARISH — Barnsdall Oil Co.'s Dibert, Starks and Brown 1, n of Gibson field, 110-16s-15e, dk.

VERMILION PARISH — Continental's Brookshire 1, Abbeville area, 66-12s-3e, blew out at 11,900 ft, circulating.

MISSISSIPPI

BOLIVAR COUNTY — Phillips Pet. Co.'s Perthshire 1, 2-24n-7w, sd 5700 ft, hd shale.

CALHOUN COUNTY—B. G. Dowell's H. D. Hughes 1, 18-23n-9e, dr 1350 ft. Ed Spencer's I. C. Conner 1, se ne 12-24n-8e, mim.

FRANKLIN COUNTY—Fred E. Courson et al's Homochitto Lbr. Co. 2, 300 ft n c 8-5n-3e, dk.

JONES COUNTY—Snow-Black Pet. Co.'s Cranford 1, s½ nw 29-7n-12w, co, td 4110 ft.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, nec 6-10n-14e, dk.

LAMAR COUNTY—Sun Oil Co. et al's Mrs. Kate Talley 4, se nw 33-4n-15w, spd. South Miss. Oil Co.'s Morris 1, sec 4-2n-14w, spd and sd.

PIKE COUNTY — Acadian Prod. Corp.'s Bales 1, c se nw 24-7n-2e, dk.

WILKINSON COUNTY — Chas. Green et al's Julian Taylor 1, 4-3n-1e, elev 251 ft, hole caved while making drill stem test, arr co, td 4048 ft, Minden limestone.

YALABOUSHA COUNTY—Acme Holding Co.'s S. D. Boyle 1, nw nw 33-25n-7e, rur. Skuna Dev. Co.'s Mrs. T. A. Turner 1, se sw ne 25-25n-6e, hole clean, arr deepen 906 ft.

MONTANA

CHOUTEAU COUNTY—Security Petroleum Corporation's Johnson 1, ne 23-26n-3e, dr 1800 ft.

GLACIER COUNTY—W. E. Ullman's Allotted 1, csw 35-36n-3w, dr 3820 ft.

JUDITH BASIN COUNTY—Hunt et al's 3, nw se ne 30-14n-15e, dr 1721 ft.

PARK COUNTY—Ben W. Ryan's Burgess 1, se sw nw 28-2n-11e, dr 856 ft.

PETROLEUM COUNTY—O. B. Canfield's Government 1, cel se ne 21-17n-24e, dr 765 ft.

TOOLE COUNTY—Coolidge & Coolidge's Clark 2, cse sw 24-37n-1w, lcn. Model Oils, Ltd.'s Fey 1, cne sw 5-37n-3e, dr 2110 ft.

YELLOWSTONE COUNTY — Broadview Dome Oil Co.'s Halbirtter 1, se nw 18-3n-23e, dr 2800 ft.

NEBRASKA

SIOUX COUNTY—J. M. Huber Corp.'s Morgan 1, csw sw 32-35n-56w, dr 3030 ft.

OKLAHOMA

ADAIR COUNTY—B. L. Maddox's Penn Mutual Life Ins. Co. 1, cs½ ne nw 5-16n-24e, dr 260 ft.

ATOKA COUNTY—A. L. Larson's Mason 1, sw se se 35-1n-14e, dr 180 ft. C. M. Sheldon and Gardner Pet. Co.'s Lee 1, ne nw sw 2-4s-10e, dr 550 ft. Hagey et al's Becker 1, cne¼ 4-1n-13e, sp. Hagey et al's Peck 1, cn¼ 6-1n-13e, rig.

BECKHAM COUNTY — Mid-American Oil Co.'s Biscoe 1-A, sw sw sw 28-8n-22w, ur 6⅝ in csg.

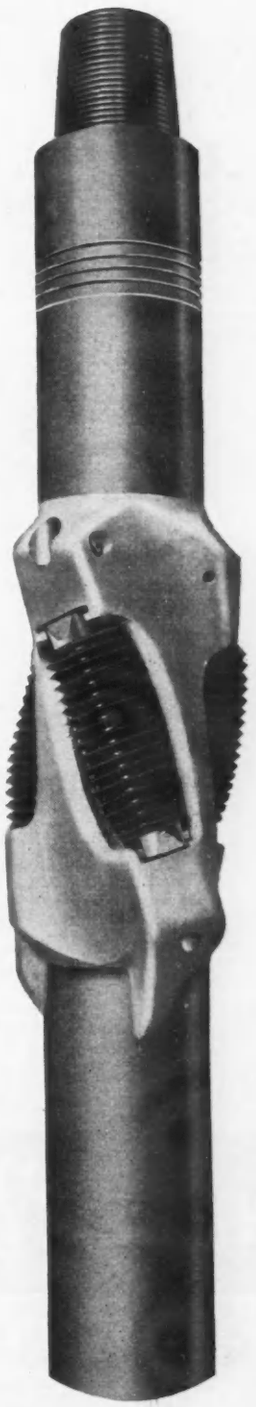
BRYAN COUNTY — Southern Oil Co.'s Henry 1, cnw ne 10-8s-7e, lcn.

CADDO COUNTY—Clyde Becker et al's Pharris 1, se se nw 24-6n-4w, sdo 6235 ft. I.T.I.O. Co.'s Dome-Bo 1, cne se 29-6n-10w, dr 3555 ft.

CLEVELAND COUNTY—Harner & Turner's Pollock 1, cw½ nw nw 13-9n-2w, lcn. Hollenback's Norman 1, nw nw ne 17-9n-2w, dr 7110 ft. Hollenback's Ward 1, sw se ne 30-7n-1e, abnd 6949 ft.

CHOCTAW COUNTY—V. K. Chapman & Low's Hallum 1, nw nw ne 4-7s-20e, mach.

COAL COUNTY—Phillips' Beck 1, se sw



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sw 6-1n-9e, dr 3204 ft. Carter's Claytor 1, cw½ne sw 27-2n-9e, dr 5790 ft.

COMMANCHE COUNTY—J. W. Wolf's Costinus 1, sw sw se 30-4n-11w, spd.

COTTON COUNTY—Bowers & Wise's Pendergraft 1, nw se sw 4-4s-12w, dk.

CREEK COUNTY—L. B. Jackson's Alberty 1, ne ne nw 25-18n-9e, testing.

GARFIELD COUNTY—H. R. Hollenbach et al's Clark 1, nw nw nw 34-21n-6w, rig.

GARVIN COUNTY—Carter's Potts 1, ce½ se nw 36-1n-3w, dr 2460 ft. B. C. D. Edwards' Clark 1, ne ne ne 16-3n-3e, dr 1785 ft.

GRADY COUNTY—Gulf's Thomas 1, sw nw nw 14-4n-5w, dr 7215 ft. Doyle Pet. Co.'s Huffine 1, nw nw se 30-5n-8w, dk.

GRANT COUNTY—Carter et al's Crisman 1, cw½ sw nw 16-25n-3w, testing for wtr source.

GREER COUNTY—J. I. Medlin et al's Broudie 1, nw nw nw 5-6n-20w, ru, sd.

HASKELL COUNTY—Continental's Ferguson 1, sw se ne 33-8n-20e, dr 6886 ft.

HUGHES COUNTY—Phillips' Becker 1, ne nw sw 8-5n-10e, dr 2260 ft. H. H. Ellis' Tiger 1, nw se sw 29-6n-8e, td 734 ft, wtr; pb to 697 ft. W. O. Allen et al's Barnard 1, sw sw sw 24-8n-8e, 8 & 12 shots, 3380-84 and 3307-15 ft, est 3,000,000 cu ft gas. Moroney & Healey's Field 1, cnw sw 11-9n-11w, hfw 3540 ft, sd. E. H. Moore's Buck 1, cnw sw sw 21-8n-10e, fsg 4025 ft.

JACKSON COUNTY—Ace Gutowsky et al's Booker 1, nw nw nw 33-2n-18w, sd; Lee 1, nw nw se 36-2n-19w, lcn. Ace Gutowsky's Howard 1, ne sw nw 10-3n-19w, sd 950 ft.

JOHNSTON COUNTY — W. T. Shelton's Chapman 1, cnw nw 26-4s-6e, dr 1665 ft.

KIOWA COUNTY—H. L. Wirick et al's Noske 1, se se nw 1-6n-17w, dr 840 ft.

LINCOLN COUNTY—Continental's Community 1, nw nw se 7-15n-5e, dr 3410 ft.

LOGAN COUNTY—Sunray & Olson's Canning 1, sw sw ne 31-17n-1w, dr 4650 ft.

MAJOR COUNTY—Ed Parsons' Patzkowsky 1, cnw¼ 10-20n-11w, rig.

MARSHALL COUNTY—Paul Rob et al's Vittitoe 1, cne se 11-5s-4e, co to 720 ft.

MURRAY COUNTY—Power Oil Co. et al's Lancaster Trust Co. 1, csw ne 10-1s-2e, dr 4060 ft. Meyer & Greenup's Arbuckle Royalty Co. 1, nw nw ne 18-2s-3e, spd 48 ft and sd.

MUSKOGEE COUNTY—F. E. Cusack's Elliott 1, cnl nw sw 20-15n-20e, rog. Cusack's Fee 1, ne sw se 20-15n-20e, spd 65 ft.

NOBLE COUNTY—Seaboard Western Oil Co.'s Guthrie 1, nw nw ne 6-20n-2w, dr 4992 ft. Darby Pet. Co.'s McCoy 1, sw sw sw 24-23n-2w, dr 1340 ft.

OKFUSKEE COUNTY—Burke-Greis' Rhea 1, sw sw se 14-10n-9e, skid rig 20 ft. F. W. Merrick's Mackey 1, ne ne sw 29-11n-10e, dr 3150 ft.

OKLAHOMA COUNTY—Frank Buttram et al's Cole 1, nw nw nw 16-14n-1e, abnd 5870 ft. Ardie Oil Co.'s State 1, ne ne se 16-14n-4e, dr 4214 ft.

OSAGE COUNTY—Nat'l Ref. Co.'s Page 2, nw sw se 29-22n-9e, lcn.

PAWNEE COUNTY—J. F. McManman et al's School Land 1, nw nw ne 16-21n-5e, dr 1020 ft.

PAYNE COUNTY—H. S. Brim et al's McKenzie 1, cwl se ne ne 13-18n-3e, c&p. Stanolind-Amerada's Bennett 1, nw se ne 31-19n-4e, lcn.

PITTSBURG COUNTY—Okla. Dist. Oil Co.'s Beeler 1, ne ne sw 7-7n-14e, 100 ft mud in hole, co.

PONTOTOC COUNTY—Norbla Oil Co.'s McBride 1, ne ne sw 10-2n-5e, lcn. Union Dev. Co.'s Abbott 1, sw nw ne 34-3n-6e, dr pipe stuck 2500 ft. Boettcher O&G Co.'s Gann 1-A, se nw ne 25-4n-7e, fsg dr pipe 4347 ft.

POTTAWATOMIE COUNTY—Hightower's Baker 1, se se nw 27-6n-3e, rig. Roy S. Nash et al's Miller 1, cn½ ne se 29-6n-3e, bail 8 bbls oil & 17 bbls wtr, 24 hrs. Mid-Continent Pet. Corp.'s Ne-Thah-Pea-Se 1, se se ne 24-11n-4e, sd for connections.

PUSHMATAHA COUNTY—Erle Halliburton et al's Bagwell 1, sw ne ne 30-2s-15e, dr 5050 ft.

SEMINOLE COUNTY—Stanolind, Amerada et al's Salina 1, se ne nw 4-5n-6e, pb 3272 ft, recementing. Phillips' Gilcrease 1, nw nw se 16-7n-12e, dr 2435 ft.

STEPHENS COUNTY — Coline Oil Co.'s Johnson 1, sw se ne 1-2n-8w, dr 9515 ft. Ed Parsons et al's Blake 1, csw nw 22-2n-8w, bailing. Newsom's Pfile 1, sw sw sw 1-2s-7w, dr 1036 ft. Jack Cohen's Pierce 1, ne ne nw 24-2s-6w, dr on 6-in collar 1355 ft.

TILLMAN COUNTY—Gulf's Prichard 1, se nw se 32-3s-16w, freeing stuck dr pipe 3796 ft.

WEST TEXAS

(This report is confined to north portion of the Permian basin.)

ANDREWS COUNTY—M. J. Delaney & American Liberty Oil Co.'s H. A. Moore-Gulf 1, SEc sw¼ PSL sec 12, blk A-30, elev 3178 ft, top anhydrite 1960 ft, shot 600 qts nitro 4442-4572 ft, td 4579 ft, shut in after swabbed 27 bbls oil and 28 bbls sulphur water daily. Drilling & Exploration Co., Inc.-Fuhrman Pet. Corp.'s Munger-Nix 1, c sw¼ PSL sec 20, blk A-47, lcn; Thornberry 1, SEc nw¼ PSL sec 8, blk A-42, lcn. H. S. Fergeron et al's Lockhart-Brown 1, c ne ne PSL sec 20, blk A-41, sd 179 ft. Gulf Oil Corp.'s University 1-G, nec nw sec 8, blk 14, set 13 in csg at 232 ft.

BAILEY COUNTY—Geo. Etz & E. H. Robertson's I. C. Enochs 1, c labor 66, league 182, Floyd C. S. L. sur, sd 1970 ft. J. O. Whittington et al's McCelvey Bros. 1, c labor 15, league 161, Presidio C.S.L. sur, no report.

COCHRAN COUNTY—Devonian Oil Co.'s T. B. Duggan 1, NWc labor 11, league 55, Oldham C.S.L. sur, bldg dk. The Texas Co.'s C. C. Slaughter 1 (3492-ac), sw part league 130, Carson C.S.L. sur, elev 3808 ft, top anhydrite 2275 ft, dr li 4756 ft, had odor gas 4725-29 ft, so 4731-36 ft, so&g 4740 ft. P. N. Wiggins, Jr.-C. Ed Hyde et al's C. S. Dean-Slaughter 1, labor 26, league 92, Lipscomb C.S.L. sur, elev 3730 ft, top anhydrite 2270 ft, top Yates 2868 ft, top lime 4220 ft, will acidize lime at 5030 ft, had shows oil at 4993-5000 and 5016-19 ft and now 800 ft oih; C. S. Dean-Slaughter (Honolulu) 1, NEc league 58, Martin C.S.L. sur, dr 3300 ft salt and lime.

DAWSON COUNTY—Ray Albaugh et al's Higginbotham 1, labor 24, league 269, Moore C.S.L. sur, lcn; D. Hogg 1, c se se T.P. Ry. sec 17, blk 34, T-4-N, elev 2895 ft, top anhydrite 1550 ft, set 7-in csg at 3560 ft, wocs. Ernest L. Wilson, Atlantic Ref. Co. et al's Scanlan Bros. 1, c nw nw of E.L.&RR Co. sec 83, blk M, elev 3111 ft, top anhydrite 2105 ft, top Yates 2880 ft, top lime 4460 ft, pb fr 4965 ft to 4933 ft, treated 5000 gal acid, swabbed 85 bbls fluid, about 15 percent acid water, in 12 hours.

GAINES COUNTY—Amerada Pet. Corp.'s C. M. Armstrong 1, c nw nw sec 456, blk G, CCSD&RGNG Ry. sur, elev 3612 ft, top anhydrite 2107 ft, top Yates 3035 ft, top first lime stringer 4020 ft, tested water 5079 ft, pb to 5047 ft, swabbed 2½ bbls, 75 percent water; E. C. Brand 1, SEc n½ sec 54, blk AX, dr 360 ft red beds; R. A. Cox 1, NWc sec 380, blk G, elev 3554 ft, top anhydrite 2076 ft, salt 2190-2880 ft, top Yates 2955 ft, lime pay 4897-4952 ft, used 2000 and 4000 gals acid; Flo Matthews 1, NEc PSL sec 417, blk G, elev 3557 ft, salt series 2196-2819 ft, top Yates 2975 ft, top brown lime 3930 ft, top solid lime 4250 ft, mostly water 5018 ft, shut in; S. E. Smith 1, NEc sec 382, blk G, lcn. Amon G. Carter et al's J. R. Sharp 1, NWc PSL sec 47, blk AX, dr 4055 ft, anhydrite and red beds; E. C. Brand 1, SEc PSL sec 54, blk AX, no report; E. C. Brand 2, NEc se¼ sec 54, dr 225 ft, red rock. A. G. Carter-Phillips Pet. Co.'s A. L. Wasson 1-B, SEc PSL sec 48, blk AX, dr 2095 ft. Continental Oil Co.'s E. H. Jones 2, c se ne PSL sec 1, blk A-8, cellar and pits. R. H. Gill et al's S. R. Simpson 1, near ne nw ne PSL sec 8, blk C-44, elev 3226 ft, dr lime and red rock at 4686 ft. Ohio Oil Co.'s S. J. Averitt 1, c nw ne W. T. Ry sec 228, blk G, dr lime at 4815 ft, gas at 4394-4400 ft. Phillips Pet. Co.-I.T.I. Oil Co.'s E. C. Brand 1, se se ne PSL sec 55, blk AX, elev 3585 ft, top anhydrite 2140 ft, top salt 2245 ft, top Yates 3035 ft, top first lime 3990 ft, shut in at 5030 ft to bldg up pressure, swabbed 195 bbls oil and 18 bbls sulphur water in 24 hrs, gas increasing

HOCKLEY COUNTY—Frank A. Bates et al's S. S. & A. L. Lockett 1 (686-ac), 3790 ft fr s and 625 ft fr e lines PSL sec 5, blk 1, elev 3453 ft, top anhydrite 2250 ft, top salt 2330 ft, top Yates 2970 ft, top first lime 3990 ft, dr lime at 4725 ft. Stanolind O&G Co.'s Alex Slaughter 1, c sw¼ labor 76, league 37, Zavalla C.S.L. sur, elev 3518 ft, top anhydrite 2220 ft, top Yates 2821 ft, top lime 4150 ft, brown sandy-lime 4940-4975 ft, used 6000 gals acid, flowed 160 bbls oil in 10 hrs, shot 180 qts at 4935-4972 ft. co after shot, no test yet.

LYNN COUNTY—R. L. Foree et al's C. O. Edwards 1, SEc HE&WT Ry. sec 104, blk 9, lcn.

MARTIN COUNTY—Harris-Anderson Corp.'s Mrs. M. Robinson 1, sw¼ T&P Ry, sec 33, blk 36, T-1-N, lcn. J. L. Greene, R. C. Conkling & T. R. Parker's O. B. Holt 1, labor 20, league 319, Garza C.S.L. sur, dr red rock at 186 ft.

TERRY COUNTY—H. B. Anthony-E. R. Rice & Illinois Oil Co.'s A. M. Brownfield 1, c nw¼ of E. L. & RR Co. sec 28, blk A-1, elev 3192 ft, top anhydrite 2236 ft, dr sandy lime at 5245 ft, bailed salt water from 5228-45 ft. R. L. Foree et al's W. E. Pool 1, c ne¼ PSL sec 54, blk D-11, elev 3447 ft, top anhydrite 2418 ft, base salt 3103 ft, top Yates 3138 ft, first lime stringer 4165 ft, top big lime 4592 ft, dr lime 5315 ft.

YOAKUM COUNTY — Bohago Oil Corp.-Bond Oil Corp.'s M. West 1, c se nw sec 606, blk D, J. H. Gibson sur, elev 3660 ft, top anhydrite 2230 ft, top Yates 3041 ft, top brown lime 4035 ft, lime pay 5183-5255 ft, used 10,000 gals acid, flowed 44 bbls oil daily through ½-in choke on tubing, for past several days. Denver Prod. & Ref. Co.'s J. A. Whittenburg Est. 1, c nw nw sec 831, blk D, elev 3616 ft, top anhydrite 2170 ft, lime pay 4960-5015 ft, used 14,000 gals acid, corrected depth 5001 ft, shut in; C. A. Elliott 1, c ne ne sec 832, blk D, lcn. Moore Bros. Corp. et al's Geo. Cleveland-Ohio 1, c ne ne sec 706, blk D, elev 3624 ft, top anhydrite 2210 ft, top salt 2280 ft, top Yates 3050 ft, top brown lime 4060 ft, top solid lime 4610 ft, td 5506 ft, pb to 5328 ft, set 24 hrs, ran bailer. Siosi Oil Corp. et al's Ruth Bennett 1, sw sw sw sec 631, blk D, used 3000 gals acid at 5277 ft, no further report. Standard Oil Co. of Texas' M. B. Sawyer 1, c se se sec 576, blk D, dr lime 4328 ft. The Texas Co.'s W. F. Walker 1, c se se sec 794, blk D, elev 3656 ft, top anhydrite 2114 ft, top Yates 2990 ft, top solid lime 4450 ft, pb from 5180 ft lime to 5102 ft, will shoot, acidize, and test.

WEST TEXAS

(This report is confined to Ordovician, Delaware and prospects west of the Pecos River.)

BREWSTER COUNTY—Floyd C. Dodson, Duffy et al's Texas American Synd. 1-A, near c ne ne GH&SA Ry. sec 66, blk 10, elev 4228 ft, top Delaware shale 2297 ft, shows little oil

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with upper water, sd 6001 ft. Tony Hess et al's Mrs. M. Decie 1, sec 7, blk 1, Georgetown Ry. Co. sur, sd 925 ft. G. H. Storey et al's J. P. Wilson 1, c se nw T & St. L. Ry. sec 3, blk 212, elev 3609 ft, trace oil 2358-65 ft, 2475-85 ft and 2520-35 ft, sd 2545 ft for csg

CRANE COUNTY—Gulf Oil Corp.'s W. N. Waddell et al 6, c ne sw PSL sec 4, blk B-27, no report; M. B. McKnight 2, c ne PSL sec 9, blk B-21, elev 2687 ft, top anhydrite 416 ft, top salt 585 ft, sd 5404 ft, hole bad. Loffland Bros. Co.'s J. B. Tubb-Gulf 3, nw nw nw PSL sec 9, blk B-27, elev 2540 ft, top Simpson 5791 ft, top Ellenberger 5802 ft, dr lime 5896 ft. Sinclair Prairie et al's J. B. Tubb 2, nw nw sw PSL sec 3, blk B-27, elev 2552 ft, top Yates 1460 ft, top lime 2310 ft, top Simpson 5842 ft, top Ellenberger lime 6188 ft, will test lime at 6283 ft. Wilcox O&G Co. et al's M. B. McKnight 1, c se nw G&MMB&A sec 9, blk 46, elev 2773 ft, sd for repairs at 4500 ft.

CROCKETT COUNTY—Moore Bros. Corp. et al's Paul Perner 1, c nw I & G N Ry. sec 37, blk 2, elev 2560 ft, dr anhydrite at 1610 ft.

JEFF DAVIS COUNTY—H. D. Wilcox O&G Co. et al's Jones-Coffield 1, NEc of H&TC Ry. sec 121, blk 4, sd for csg at 3315 ft.

EL PASO COUNTY—Tri-State Oil Co.'s Chas. & L. M. Kinkel 1, ne ne ne sec 237, S. F. No. 7232, dr brown lime at 3050 ft.

HUDSPETH COUNTY—Haymon Krupp Oil & Land Co.'s K. S. Briggs 2, nw nw nw T&P Ry. sec 24, blk 73, Tsp. 7, dr lime 280 ft; S. J. Thaxton 1, near SEc ne se T&P Ry. sec 34, blk 74, Tsp. 6, dr shale at 3080 ft.

LOVING COUNTY—Barnett Pet. Corp.'s W. D. Johnson 1-A, se se ne T&P Ry. sec 12, blk 56, Tsp. 1, elev 3044 ft, dr anhydrite at 1792 ft; W. D. Johnson 1-B, ne se se T&P Ry. sec 2, blk 57, Tsp. 1, dr anhydrite at 1647 ft. Continental Oil Co.'s E. C. Marrs-Y. Bell 1, near SEc nw T&P Ry sec 20, blk 54, Tsp. 2, dr 1925 ft anhydrite. Michigan O&G Corp.'s M. Kyle 4, se nw ne T&P Ry. sec 20, blk 55, Tsp 1, dr salt and anhydrite at 3226 ft; M. Kyle 5, ne ne se sec 20, lcn. Woodley Pet. Co.'s T. P. Land Trust 1, NWc n½ s½ of T&P Ry. sec 21, blk 55, Tsp. 1, set csg at 1317 ft, wocs.

PECOS COUNTY—Aero Gas Ref. Co.'s Johnson-Skelly 1-A, n½ of H&GN Ry. sec 40, blk 8, dr shale at 522 ft. F. A. Bond et al's O. W. Williams 1, near c sw se of GC&SF Ry. sec 3, blk 114, sd in red rock at 210 ft. E. P. Cravens et al's J. C. Trees 1, ne nw se H&GN Ry. sec 63, blk 8, shot 180 qts at 2168-2258 ft, co, td 2258 ft lime. Mike L. Benedum et al's Joe C. Trees 1, sw sw sw H&GN Ry. sec 9, blk 8, Ordovician test, set 12½ in csg in red rock at 1148 ft, wocs. D. W. Francis et al's Hadden-Westerman 1-A, NWc 186-ac lse, Rubian Phares sur, blk 166, elev 3155 ft, dr red beds at 1785 ft. Humble O&G Co.'s F. N. Belding 1, ne se sec 99, blk OW, pb fr 1390 to 700 ft to straighten hole. K. Kemberlin & Samwan Oil Co.'s Mrs. B. Young-Humble 1, sec 49, blk 10, H&GN Ry. sur, sd 1800 ft lime, had 300 bbls oih in 3 hrs from 1794-1800 ft. Magnolia Pet Co.-Superior Oil Corp.'s J. H. McKee 1-A, near nw nw sw H&GN Ry. sec 24, blk 9, Ordovician test, elev 2385 ft, jkd 2nd hole 1210 ft, dr 973 ft anhydrite. Phillips Pet. Co.'s Pryor-C. H. Grierson 1, c ne se sec 71, blk ow, elev 2939 ft, top anhydrite 1810 ft, flowed sul water 2795-3007 ft, dry and abd. T. N. Sloan-F. E. Lewis and Sloan-Zook Co.'s Dow Puckett 1, sw sw sw E. L. & RR Co. sec 3, blk 100, dr lime at 445 ft. Stanley A. Thompson et al's Elsinore Cattle Co. 1, se¼ of GC&SF Ry. sec 53, blk D, elev 3938 ft, sd 5804 ft. Trans-Pecos Oil Co.'s F. M. Gallaher 1, ne ne nw T&P Ry. sec 9, blk 51, Tsp. 10, sd 1740 ft lime; Popham Land & Cattle Co. 1-B, s½ of GH&SA Ry. sec 235, blk 11, (3rd hole) dr red bed at 860 ft.

PRESIDIO COUNTY — Brite Production Co.'s L. C. Brite 1, ne¼ of GH&SA Ry. sec 113, blk 12, tested 2½ bbls oil daily at 4367-75 ft, fsh for csg at 4375 ft.

REEVES COUNTY—Barnett Pet. Corp.-J. C. Hill and Conoco's Ely-Healy 1, c nw PSL sec 38, blk 71, elev 3166 ft, fsh at 1400 ft.

SCHLEICHER COUNTY—John M. Cooper et al's Bert Page 2, c ne se GH&SA Ry. sec 40, blk L, elev 2289 ft, sd for csg at 4550 ft in shale. Tex-Tor Oil Corp.'s Judkins-Spencer 1, c sw¼ of A&B sec 33, blk A, had salt water 3090-95 ft, ur csg at 3133 ft.

SUTTON COUNTY—Ordovican Oil Co.'s J. T. Evans 1, ne ne ne sec 1, blk V-26, Lucy Stubblefield sur, dr shale at 2260 ft.

TERRELL COUNTY—R. A. Basurto et al's J. H. Phelps-Bates 1, near SEc nw¼ sec 5, G. W. Turley sur, A-4, elev 2185 ft, fshg for bailer at 5600 ft, in lime. D. & S. Oil Co.'s Sam Bell 1, near SWc ne sw of E. L. & RR sec 68, blk D-7, sd in lime at 20 ft.

WARD COUNTY—Magnolia's Geo. Sealy 1-A (Sec 55), ne ne se G&MMB&A Ry. sec 55, blk F, dr lime 3082 ft. McDowell & Weiner (was L. F. White et al's) Monroe-Rector 1, e cor W&NW Ry. sec 3, blk 1, elev 2649 ft, top Delaware lime 4635 ft, top Delaware sand 4670 ft, td 4702 ft, shot 260 qts 4635-98 ft, testing sand at 4710 ft.

EAST TEXAS

BOWIE COUNTY—Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Austin chalk 2984-3191 ft, top Woodbine 3560 ft, top Georgetown lime 3860 ft, Fredericksburg lime 4410-4777 ft, dr sandy lime 5370 ft.

CHEROKEE COUNTY—Merica Oil Co.-W. L. Stone's Cherokee Dev. Co. 1, A. J. Acker sur, 2 mi e Maydelle, mim.

ELLIS COUNTY—Gigantic Oil Co., Inc.'s C. H. Sullivan 1 (90 2/3-ac), Simon Garcia sur, 4 mi n Frost, top Paluxy 3018 ft, td 3700 ft, set whipstock, wocs.

FANNIN COUNTY—Stewart Oil Co. et al's Nathan Young 1 (67.24-ac), S. H. Hitchcock sur, near Randolph, dr 2815 ft.

FREESTONE COUNTY — Holt, Young & Nanley's W. H. Chambers 1 (125-ac), W. D. Allison sur, 2¾ mi n Keechi, elev 426 ft, top Pecan chalk 3980-4690 ft, dr shale 5872 ft. C. E. Rossiter et al's J. P. Fulton 1 (441-ac), J. P. Fulton sur, sd 956 ft.

GREGG COUNTY—Humble O&R Co.-Gulf Oil Corp.'s E. D. Robertson 1 (11.4-ac), M. Mann sur, 2½ mi w by s Longview, 4 mi e production, elev 272 ft, Pecan chalk 2263-2737 ft, fshg 3647 ft.

HENDERSON COUNTY—American Liberty Oil Co.-E. B. LaRue et al's Johnson 1, blk 11, Phillips Jackson sur, 2 mi w LaRue, elev 464 ft, Pecan chalk 2765-2890 ft, Austin chalk 3811-4139 ft, dr 5740 ft. Wm. McDougal, Tr., et al's Trinity Farm Securities Co.-R. Maniing 1 (200-ac), H&TC Ry. sur, 4 mi s Malakoff, dk. Tide Water Associated-Seaboard & Humble's McElreath-Suggett 2-C (149-ac), W. P. Wyche sur, 1½ mi nw Opelika, elev 452 ft, top Georgetown 5070 ft, top Paluxy 6087 ft, top first Glen Rose 6282 ft, top anhydrite 6991 ft, massive anhydrite 7315-7713 ft, flowed water at 7830 ft, dr 8927 ft.

HOUSTON COUNTY — American Liberty Oil Co. et al's J. A. Bean 2 (31.05-ac), Wm. Burke sur, 1 mi n Grapeland, dr shale at 5200 ft. R. O. Coe et al's Texas Long Leaf Lumber Co. 1, dr 1470 ft. Geier Bros. and F. B. Jackson's H. F. Moore 1 (135-ac), Henry Masters sur, 2 mi se Crockett, mim.

HUNT COUNTY—Bauersfeld & Aue, Inc. (was Texola's) J. M. Goin 1 (250-ac), Jas.

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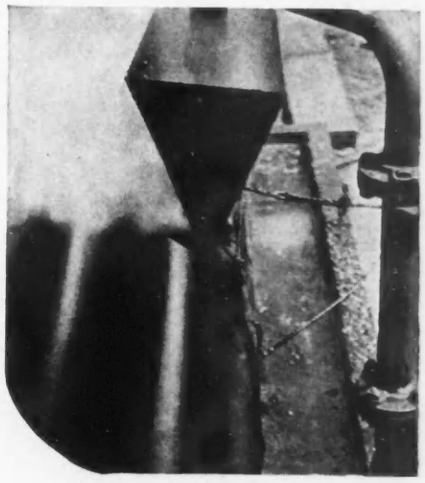

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Merrick sur, 2 mi sw Wolfe City, elev 606 ft, sd 1010 ft.

KAUFMAN COUNTY—J. M. Scott-J. B. Woodside et al's W. & T. Nash 1 (80-ac), Juan Cortez sur, 1 mi e Scurry, elev 401 ft, top Woodbine 2270 ft, top Georgetown 2849 ft, sd 3015 ft.

LAMAR COUNTY—Blackman & H. W. McGee's J. M. Duff 1 (75-ac), J. C. Lamb sur, near Powderly, sd 1022 ft.

LEON COUNTY—J. W. Kelley & Fox's L. W. Bryant 1 (48-ac), A. M. Coulter sur, 1 mi ne Marquez, ru and sd.

LIMESTONE COUNTY—Pure Oil Co.'s Kendrick 16-T (96-ac), 3 mi w Mexia and in field, elev 508 ft, top Woodbine 2896 ft, top Georgetown 3365 ft, top first Glen Rose 4270 ft, top broken anhydrite 5132 ft, top Travis Peak 5656 ft, dr hard sandy shale at 7270 ft. Stanolind O&G Co.-Ramsey Pet. Corp.'s T. Norris 1 (40-ac), K. Thrasher sur, 5 mi n Kosse, Trinity test on Thornton fault, elev 528 ft, top Navarro 770 ft, top Midway 210 ft, td 2870 ft, pb to 2394 ft, wocs.

MORRIS COUNTY — Joiner Oil Corp.'s Morris Sheppard 1, MEP&P Ry. sur, 3 mi nw Naples, elev 315 ft, dr shale at 1600 ft. Jim O. Whittington et al's C. D. Browne-Joiner Leasing Synd. 1 (320-ac), T. C. Ry. Co. sur No. 734, 8 mi nw Naples, top Woodbine 3490 ft, top Georgetown 4089 ft, dr 4707 ft.

NAVARRO COUNTY—Mrs. Jane Robinson et al's Fortsan Bros. 1, Eli Smith sur, 5 mi ne Corsicana, sd at 10 ft. Tom Sharp et al's E. B. McDowell 1 (65-ac), T. J. Jordan sur, ½ mi s Bazette, dr shale at 2736 ft.

RED RIVER COUNTY—E. R. Cosby et al (was Texfornia Co.-R. H. Manning's) Hocker-Hughes 1 (80-ac), MEP&P Ry. sur No. 642, 6 mi sw Lydia, elev 297 ft, Pecan chalk 995-1302 ft, top Austin chalk 2018 ft, sd 2800 ft.

RUSK COUNTY—J. W. Shipman et al's Citizens Nat'l Bank-L. T. Burton 1 (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, base Georgetown lime 3676 ft, sd 4500 ft.

VAN ZANDT COUNTY—P. E. Hill et al's J. L. Chitty 1 (49½-ac), M. Neal sur, 12 mi s Canton, sd at 1760 ft in lime and shale.

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY—J. B. Bond's Bailey & Martin 1, Geo. Martin sur, elev 299 ft, first stringer anhydrite 4821-4838 ft, massive anhydrite 5378-5625 ft, dr 6060 ft, lime and shale.

MARION COUNTY—Ark. La. Gas Co.'s J. P. Fant 1, L. P. Cadenhead sur, elev 336 ft, pb to 6158 ft, to shut off sw, shot with nitroglycerine, testing old td 6188 ft; Emma Ford 2, A. de los Santos Coy sur, dr 3301 ft, shale & lime; W. Houston 1, A. de los Santos Coy sur, dr 2890 ft. Fohs Oil Co.'s Mary McReynolds 2, A. de los Santos Coy sur, dr 5980 ft; McReynolds 3, dk. Gulf's Lizzie Henderson 2, R. Bennington sur, rur, chalk. The Hunter Co.'s E. W. Fonda 3, A. de los Santos Coy sur, logged sw in lime & shale to 6167 ft, pb to 6114 ft, testing with hfo at 6143 ft Mid-Continent Pet. Co.'s Sory 3, flowing 16 bbls hour through ¼-in tubing choke, td 6057 ft; Sory 4, rur; Sory 5, mim. Shell Pet. Corp.'s Lizzie Henderson 1, R. Bennington sur, dr 5800 ft. United Gas' Hutchinson 2, A. de los Santos Coy, setting csg td 6116 ft; Hutchinson 3, top Nacatosh 1595 ft, dr 3850 ft; Hutchinson 4, dr 2450 ft. Holcomb & Thomasson's Henderson A-1, E. Ewing sur, mim.

PANOLA COUNTY—Danciger O&R Co.'s J. W. Tatum 1, Alfred Bissell sur, elev 193 ft, dr 6140 ft, hd lime. Magnolia Pet. Co.'s E. A. Hull 2, Thos. Applewhite sur, elev 222 ft, dr 8430 ft, shale & lime.

SHELBY COUNTY—Allen et al's George 1, C. C. Tutt sur, sd 2950 ft, chalk. Logansport P. L. Co.'s Rushing 1, Mannan Smith sur, sd 3010 ft. C. L. Cope's Pickering Lbr. Co. 1, Stephen English sur, rur. Redditt & Gray's Pickering Lbr. Co. 2, S. O. Pennington sur, rur.

SOUTH TEXAS

MIRANDO DISTRICT

DUVAL COUNTY—Magnolia's DCRC 1, GC&SF sur 259, coring 3965 ft; D. Ruiz 1, sur 189, lcn. Navarro Oil Co.'s Standard Trust Co. 1, CEP Irr & Mg sur, dr 2735 ft. John J. O'Hern's S. Benavides 1, sur 171, lcn; M. B. Volpe 1, sur 170, lcn. Parr & Delaney's F. Vaello Puig 12, San Andres gr, td 4801 ft, complete 131 bbls in 12 hrs, ¼-in choke, 7-in 4792 ft, tbg 650, csg 300. H. J. Porter's Sevier 1, sec 754, fsg 5255 ft. Porter, Talbot & Dorn's A. Montemayor 1, Las Anacuas gr, dr 2465 ft. V. G. Schimmel's E. R. Hagist 3, BBB&C sur, dst recovered slight gas blow, no oil or water, dk blew down, sd for repairs 1962 ft. Speed Oil Co.'s Gruy Estate 1, sec 389, abnd 3152 ft. Standard of Texas' Gruy Estate 4, sec 154, abnd 3125 ft. Tsesmelis & Reese's Juan Canales 2, blk 75 of Juan Canales Ranch, San Juan gr, abnd 4008 ft.

JIM HOGG COUNTY—Henry M. Brown Trustee's S. Gutierrez et al 1, sur 579, dr 2835 ft. French Oil Corp.'s Paula V. de Garza 5, sur 39, sd 1074 ft; Paula V. de Garza 6, sur 269, lcn.

LA SALLE COUNTY—Ralph B. Reed et al's Louis Yeager 1, sur 39, lcn.

McMULLEN COUNTY—Adams & Lefevre's Selman 1, sec 58, A. Spaulding gr, still coring. Arthur J. Coyle's Two Rivers Ranch 1, sec 60, spudded. W. P. Howard's B. C. Claunch 9, M. Hely sur, cored oil sand 1054-67 ft, testing through tubing 1068 ft. Rowan & Nichols' Douglas W. Rhodes 1, M. F. Lowe sur, coring 2540 ft.

STARR COUNTY—Calderoni-James Follette's Francisco Rodriguez 1, sh 56, J. of Camargo, abnd 1754 ft. J. W. Edwards' Quirino Vela 1, blk 6, El Tanque subd, cored oil 1847-50 ft, testing. Gilcrease Oil's Kelsey-Bass 1, sec 11, por 75, J. of Camargo, abnd 3257 ft. E. A. Graham & King-Wood Oil Co.'s Yturria Land & Livestock Co. 2, por 100, lcn. Henshaw Bros. & Davis' M. M. Garcia 1, por 89, dr 2055 ft. McAlister-Espenlaub's Ben D. Wood 1, por 84, rig up. K. E. Merren's Starr County Cattle 1-A, Jeffries & Lambeth subd, in por 89, cleaning and making mud and wash water, slight skum distillate, ⅛-in choke tubing 650, and casing 1275, 5615 ft. Sun's F. B. Guerra 1, por 11, to spud. Transwestern Oil's T. B. Slick School 1, sur 266, cutting out drill stem near bottom, 5374 ft.

WEBB COUNTY—Adams & Lefevre's E. Garcia et al 1, sur 592, coring 1802 ft. J. B. Blanchard et al's Laurell Bros. 1, cored oil sand 1923-30, set 5½-in csg at 1923 ft, woc 1930 ft. J. E. B. Boone's Pearl H. Masterson 1, CCSD&RGNG sur, abnd 2252 ft. N. V. Duncan & Oklahoma's Ft. Worth Nat'l Bank 1, sur 466, abnd 2017 ft. French Oil Corp.'s S. Benavides 3, sur 704, rig up; J. M. Garcia Estate 4, sur 1121, dr 706 ft. Kirkwood & Morgan's H. G. de Juarez 1, sur 1005, rig. E. J. Pearl et al's De la Garza Est. 2, sur 48, dr 840 ft. Randon Oil Co.'s Joe C. Palmer 1, sur 474, coring 1200 ft. J. M. Singleton's V. Munoz 1, sur 786, lcn.

ZAPATA COUNTY—Eugene Mays et al's A. G. de Flores 1, Charco Redondo gr, dr 2065 ft.

SAN ANTONIO DISTRICT

ATASCOSA COUNTY—Brown & Bell's G. C. Atkins 1, BS&F sur 3, dr 2312 ft.

BASTROP COUNTY—Hantho-Nelson's K. M. Litton 1, Addison Litton sur, preparing to acidize in Austin chalk with 4000 gals, td 2517 ft. R. Olsen's Mattie Murchison 1, Addison Litton sur, dr deeper, could not maintain production, 1956 ft.

BEXAR COUNTY—E. C. Roberts' C. A. Weeber 1, J. Montes sur, dr 1470 ft. J. O. Wil-

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liams et al's A. W. Bitter 2, J. M. Baerrera sur 58, dr shale 460 ft.

CALDWELL COUNTY—B. C. Armstrong et al's Wilson Bell Estate 1, S. Seal sur, acidized with 4000 gals, swabbed clean, 900 ft oil in hole, now running rods and tubing, approximate depth 2465 ft. Brady Bros. & Pummel's A. B. Jackson 1, S. Morris sur, dr 1120 ft. Ellmag Oil Corp.'s Willie Pope 1, J. D. Rains sur, dk. F. & W. Drilling Co.'s C. P. Smith 1, James Berry sur, dr chalk 2075 ft. Lanning & Coffield's W. R. Trammell 1, Guadalupe College sur, plug back to test Austin chalk, td 2276 ft. W. W. Linden's J. H. Compton 1, Pablo Martinez sur, abnd. Richardson Pet. Co.'s Patterson 2, abnd 775 ft. Taylor Ref.'s Punch 1, Guadalupe College sur, abnd 2172 ft; F. Stacey & M. F. Harwood 1, E. Tyson sur, abnd 1380 ft.

COMAL COUNTY—John R. Yates' E. Heidrick 2, A. M. Holbrook sur 423, dr lime 945 ft.

DIMMITT COUNTY—Paul C. Teas & Maryland's S. E. McKnight 1, I&GNRR sur, sd 2010 ft. Wilcox O. & G. Co.'s Light Ranch 3, sec 13, dr 4425 ft; Light Ranch 4, I&GN sur, spudded.

EDWARDS COUNTY—Amon G. Carter et al's Frank J. Sweeten Ranch 1, GC&SF sur, dr 5095 ft.

FRIO COUNTY—Amerada's Harrigan 1, S. Flores sur 306, sd 6410 ft; W. H. Smith 4, J. Mason sur 322, dr in chalk 5340 ft. Pagenkopf & Jamieson's Houston Estate 1, J. Figuerroa sur 151, dr 125 ft.

GUADALUPE COUNTY—F. N. Gallagher's M. T. Howell 1, Jacob Darst sur, lcn. W. W. Lincoln et al's J. H. Sherrill 1, Geo. Allen sur, abnd 1065 ft.

KENDALL COUNTY — Edward Mattison Trustee's Margarete E. Gair et al 1, GB&GNG RR sur, lcn.

MAVERICK COUNTY — Wellington Oil's Chittim Ranch 1, I&GN sur, dr lime 3272 ft.

WILLIAMSON COUNTY—Thomas W. Davis Jr.'s Fee 1, T. H. Boggus sur, sd 1230 ft.

WILSON COUNTY—O. H. Arnold et al's T. F. Black 1, S. & J. Arocha sur, dr 150 ft. Diamond Half's R. C. Donaho 1, J. Reynolds sur, wo equipment, has not spudded. Pat Higgins' Mary Dickey 1, M. Rodriguez sur 237, sd 2057 ft; Higgins 1, A. Trevino sur, moving in rig.

CORPUS CHRISTI DISTRICT

ARANSAS COUNTY—Barnsdall's Kate Edwards 1-A, Wm. Lewis sur, complete perforations 7502-30 ft, ¼-in choke, large amount gas, slight spray distillate, shut-in pressure 2950 lbs, working pressure 1875 lbs, td 9785 ft.

BEE COUNTY—J. R. Dougherty's R. T. Hicks Estate 3, Jose M. Uranga gr, moving in.

BROOKS COUNTY — Standard of Texas' Mestina O. & G. Co. 1 (lse. 1), R. G. Salinas sur, cored sand 3800-8, drill stem test 225 lbs, 280 ft mud and salt water, dr ahead 2808 ft; Mestina O. & G. Co. 9 (lse 1), R. G. Salinas sur, wocs, set 18⅜-in casing 326 ft; Mestina O. & G. Co. 2 (lse 2), R. F. Salinas sur, testing 2404 ft.

HIDALGO COUNTY—Dee Davenport et al's Hidalgo District 6, 1, sec 262 La Mestena gr, dr 5245 ft. Y & B Oil Co.'s Waite Bros. 1, Los Ejidos gr, sd 4050 contract depth.

JIM WELLS COUNTY—H. M. Hill et al's Bertha Kuether 1, SK&K sur, to spud soon. Magnolia's A. A. Seeligson 7, Los Jaboncillos sur, resumed coring 6508 ft.

KARNES COUNTY—Ivan Howard's F. P. Moczygambe 1, E. Seguin sur 5, dr 1427 ft.

LIVE OAK COUNTY—Mills Bennett's Watson & Shipp 2, P. Salinas sur, drilling 3245 ft. Holland & Coquat's W. C. Matikin 1, A. Glavecke sur 1, bailed all water out, oil standing 400 ft in hole, will not flow, estimate will make 45 bbls daily on pump, 1512 ft. Loma Oil Co.'s W. D. McCurdy 1, Turner & Hely sur, abnd 1211 ft. F. D. Salter et al's I. W. Griffith 3, sec 20, moving in materials. Unit Pet. Co.'s Ida Atkinson 1, to dr ahead at 100 ft.

NUECES COUNTY—Camp Prod. Corp.'s Wardner 1-A, Paso Ancho Abajo and Paso Ancho Ariba surveys, cored sand 6476-82 ft, drill stem test recovered 400 lbs pressure 40 ft distillate and some mud, ¼ and⅜-in chokes in 4½ min, cored to 6493, still in sand, running new test 6481-93 ft. Seaboard Oil Corp.'s John M. Luby 1, Canutillo Ditch Colony sur, lcn. United Prod. Corp.'s T. S. Schroeder 1, A. F. de la Fuentes sur, coring 7092 ft.

REFUGIO COUNTY—Hogan Oil Co.'s J. S. Kelly 1, James Power sur, rig up.

SAN PATRICIO COUNTY—Argo Oil Corp.'s A. Soehnge 1, P. J. & M. Delgado gr, dr below sur casing 620 ft. F. P. Schwab's H. A. Smith 1, J. Hart & Sons gr, dr 5682 ft. Waterbury's Jean Davis 1, G. W. Grover sur, dr 6505 ft.

VICTORIA COUNTY — Gulf's Mahon & Buehler, J. Pointevent sur 2, coring 4230 ft. Magnolia's Willie Beck 2, TNORR sur 1, reaming 4532 ft. Stanolind's Henderson & Pickering 1, E. Benavides sur, 5350 ft, coring, drill stem test, 10 min, ¼ and ⅜-in chokes, 5304-44, recovered 490 lbs dry gas pressure. Wallace & Sollars et al's E. B. Terrell 1, J. M. Galban sur, dr 4025 ft.

TEXAS GULF COAST

BRAZORIA COUNTY — Pure's Slade 1, Peach Point area, S. F. Austin Survey, Abstract 20, abn 8397 ft.

CHAMBERS COUNTY—Ingot & Merit Oil Co.'s Wright Land Co. 1, Cedar Bayou area, C. Smith sur, preparing to make drill stem test at 6456½ ft. Joe Lundin et al's Lawrence 1, s of South Cotton Lake, S. Barrow sur, dr shale 450 ft.

FT. BEND COUNTY—Research Oil Co.'s Moore 1, ne of Orchard, S. Kennedy sur, dr shale 6875 ft. Windward Oil Co. & H. B. Ownby's Simms 1, e of Beasley, H&TC Section 1, dr shale 3569 ft.

GALVESTON COUNTY—R. R. Gay et al's Eidman 1, n of Dickinson, A. Hatch sur, preparing to spud.

HARDIN COUNTY — Coronado Oil Co.'s Ryan 1, Hathaway area, J. G. Bell sur, dr shale 4850 ft.

HARRIS COUNTY—Texas Gulf's Moore 1, Aldine area, W. C. R. R. sec 18, running an electrical logging device at 7445 ft.

LIBERTY COUNTY—O. C. Carvey's Weaver 1, nw of Cleveland area, J. Devers sur, abn 5985 ft. Humble's Sabine Tram 2, Devers area, M. Whittington sur, dr shale 6240 ft.

MATAGORDA COUNTY — Continental's Hawkins 2, D. McCarthy sur, dr shale 8913 ft.

NEWTON COUNTY — Houston Oil Co.'s Peavy Moore Lbr. Co. 1, H&TC No. 42, testing 6918 ft.

WHARTON COUNTY — Buck & Holt's Rainer 1, Blue Basin area, F. C. McReynolds sur, dr shale 685 ft.

WYOMING

ALBANY COUNTY—Ohio Oil Co.'s D. J. Griffin 1, se sw 2-21n-77w, dr 711 ft.

CARBON COUNTY—Ohio Oil Co.'s Wyoming Oil & Gas Co. 1, csw sw 29-27n-89w, testing Shannon sand at 122-1488 ft.

FREMONT COUNTY—Stanolind Oil & Gas Co.'s Johnson 1, cse se 3-33n-96w, rur.

NATRONA COUNTY — General Petroleum Corporation's Government 1, nw nw se 21-35n-77w, testing water well.

NIOBRARA COUNTY—Maupin & Moore's Berggren 1, nw 23-35n-63w, ru.

SWEETWATER COUNTY—Mountain Fuel Supply Co.'s W. L. Williams 1, ce ne 5-12n-95w, dr 1150 ft.

WESTON COUNTY—John Brorby's 1, sw se nw 26-48n-64w, dr 1120 ft.

Fire Protection

Walter Kidde & Company, 140 Cedar Street, New York, issued a new eight-page pamphlet entitled "Lux Makes the Difference," describing briefly what a built-in carbon dioxide fire protection system means to thousands of industrial plants and electrical properties.

The booklet, while not technical in content, should prove valuable to all those in charge of maintenance or protection of properties, wherein electrical or flammable liquid fire hazards are encountered.

SALES ENGINEER for field development work by Eastern oil well casing manufacturer. Must be experienced in Mid-Continent and Texas casing and drilling practices. Age 30 to 40. Write fully record of education, experience (those acting as oil production engineers preferred), salary being earned and salary requested, to Box No. 333, c/o The Oil Weekly, 3301 Buffalo Drive, Houston, Texas.

SALES HELP WANTED—Salesman wanted for Texas and Oklahoma territory for Belting—a complete line of V and Flat belts. Applications desired only from men having sales experience and fairly wide acquaintance. Commission and drawing account. Give your complete history in your reply. Our men know of this ad. Replies held in confidence. Box 999, care of The Oil Weekly, Houston Texas.

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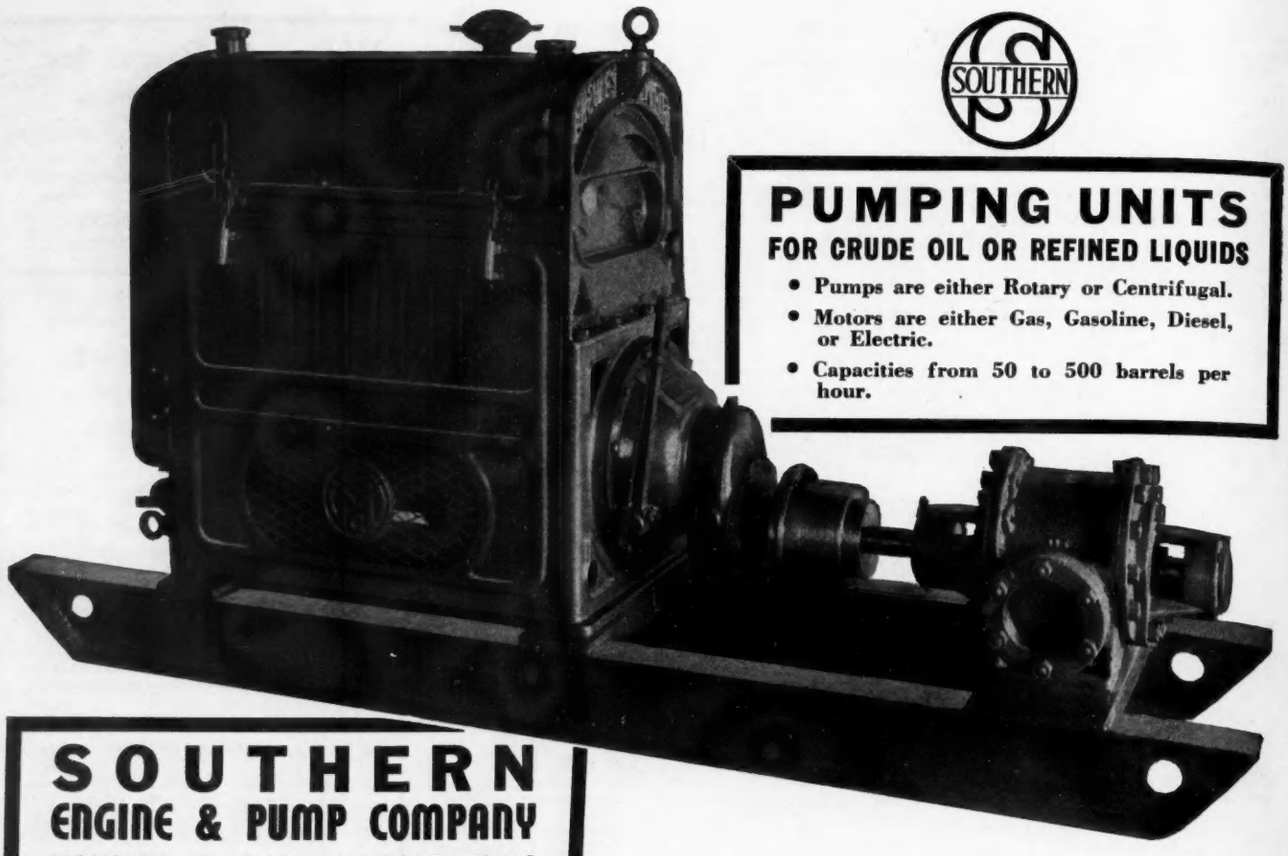

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The Huf-Duo Insert Pump is made for 2", 2½" and 3" tubing. Carried in stock by oil-field distributors. The Charles N. Hough Mfg. Company, Franklin, Pa., and Tulsa, Oklahoma.

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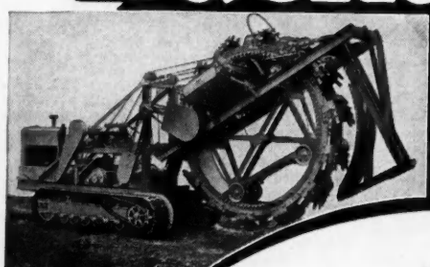

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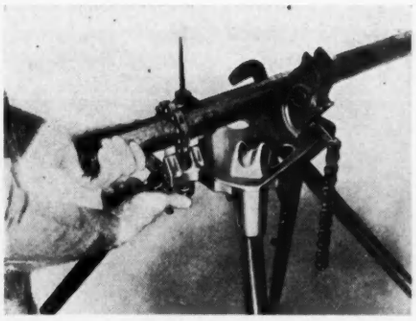
VISE STAND COMBINATION
J. H. Williams & Co.

J. H. Williams and Co., 75 Spring Street, New York City, has announced in its new "Vulcan" vise stand No. V-1 a portable and efficient unit combining complete stand, chain pipe vise and pipe bender.



Williams Vise and Bender

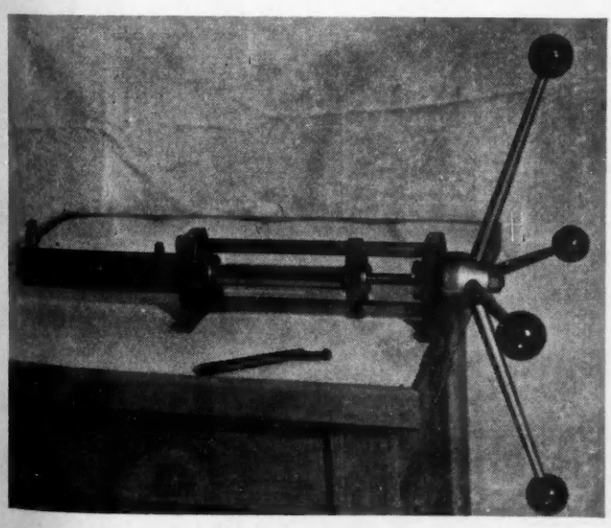
The base is made of high-grade malleable iron and is sturdy and well reinforced. Legs are 1 inch pipe with upset feet punched for fastening to the floor if desired. Legs fold for carrying and are held together by simple tie chain. Vise jaw is of tool steel, carefully hardened and tempered.

Vise stand is finished in orange enamel with black legs, weighs 35 pounds and takes pipe ⅛ to 2 inches. Pipe bender handles pipe up to ¾ inch.

VOLUMETRIC MERCURY PUMP
Walter Ruska & Company

Walter Ruska & Company, Inc., Houston, Texas, has placed on the market a new volumetric mercury pump, designed for laboratory work and petroleum engineering, such as experimentation with oil samples under bottom-hole conditions, pressure treatment of core sections and accurate volumetric measurements under pressure up to 7000 pounds per square inch.

The pumps are screw feed plunger pumps built in two sizes of 100 cc and 250 cc volume displacement. They can be furnished with or without calibration. The calibrated pumps are graduated on the tie rod in cubic centimeters. A dial on the operating handle is graduated to .01 cc. The steel feed spindle is accurately machined and has a 2-millimeter pitch. The end thrust is taken up by precision Timken roller bearings. The pump can be furnished with a case-hardened or hard chrome plated plunger. All parts are machined from solid stock; no castings nor any welding is used in the construction of the pump. Finish is black enamel and heavy nickel plate.



Ruska Mercury Pump

These new pumps meet the demand of petroleum engineering laboratories for a high pressure unit. The pumps are of superior workmanship and high accuracy. Displacement as small as .01 cc can be easily read.

FIRE EXTINGUISHER
Buffalo Fire Appliance Corporation

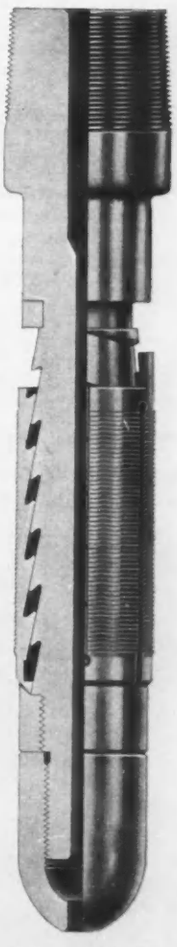
Buffalo Fire Appliance Corporation, 44 Central Avenue, Buffalo, New York, announces a new one quart C.T.C. type fire extinguisher to be known as the Buffalo "Super." It has a patented moisture-proof breather designed to prevent corrosion. Other features of this new extinguisher include: forged brass pump handle, leak-proof shut-off valve, heavy seamless drawn brass shell, double acting pump, double-end pick-up. It has an extra heavy brass nozzle recessed to protect it against breakage.

The Buffalo "Super" has been especially designed for use on trucks, automobiles, in garages, electric sub-stations and wherever there is an electrical fire hazard. It is shock-proof, and will not freeze at 40° below zero.

SPEAR
Bowen Company of Texas

Bowen Company of Texas, Houston, has a releasing spear of new and patented construction that takes advantage of principles not heretofore used. It has but four parts: the body, grapple, lock nut and bottom bolt. These are made of heat-treated alloy steel. The design results in an exceptionally sturdy spear that operates easily, positively and efficiently.

The unusually long grapple grips practically the entire inner surface of the fish over the whole length of the grapple which is actuated by the patented tapered spiralled slide on the body when pulling and by the releasing groove underneath the slide when releasing. Tapered surfaces on the body and grapple are machined at an angle of 4 inches to the foot, thus assuring absolute ease of release. Packoff attachment is available when desired.



Bowen Spear

GEOPHYSICAL APPARATUS
Norman Ricker

Norman H. Ricker, physicist, Houston, recently was granted a patent on a basic geophysical prospecting method, "Methods and Means of Geophysical Prospecting." This method is covered by U. S. Patent No. 2,089,983.

The invention lies within the realm of elastic wave methods and makes use of the propagation of elastic vibrations through the earth, but is radically different from previous elastic wave methods in both principle and practice. The invention seeks as an object to simplify geophysical prospecting by providing a means and method whereby undamped periodic elastic waves, set up in the earth, may be observed as an indication of the geophysical structure in that vicinity. The specification reveals that the earth is set into a con-

tinuous vibration by a piece of heavy machinery specially designed for the purpose at a constant frequency, and the waves received at a distance by tuned mechanically resonant receivers.

Dr. Ricker may be recalled as one of the early pioneers in geophysical prospecting in the Gulf Coastal region.

HUMIDITY-TEMPERATURE RECORDERS

Julien P. Friez & Sons

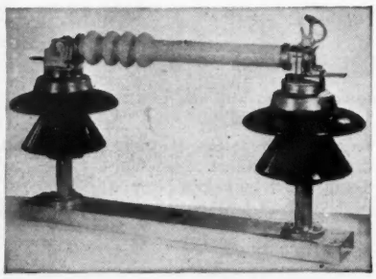
Julien P. Friez & Sons, subsidiary of The Bendix Aviation Corporation, Baltimore, Maryland, announce a new range of round chart recording instruments for relative humidity and temperature. These recorders are available in several forms for various types of applications and can be furnished for either daily or weekly operation.

The standard instrument has an electric clock movement, but spring wound clocks are available on special order. All recorders will handle the complete relative humidity range from 0 to 100 percent and will also cover the temperature range from 0 to 100° F. According to the manufacturer, one type of this new recorder has a radically new and exclusive feature since it transmits relative humidity direct from any remote distance with great precision and reliability. Temperature is also transmitted from remote distances with similar accuracy.

POWER FUSE

Westinghouse Electric & Manufacturing Company

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, recently announced development of a new power fuse, type BA "De-ion," for service in medium capacity generating stations and sub-stations of all types, where the short circuit capacity does not exceed 600,000-3 phase Kv-a.



New 34.5 kv. 200 ampere disconnecting type boric acid "De-ion" power fuse.

This light-weight fuse can readily be lowered to the ground for inspection or refilling. The complete operation of removing the fuse from service, refilling, and restoring service, can be accomplished in less than one minute, which is of initial importance in cutting down outage time and loss of revenue.

The fuse is hinged at the lower contact to open approximately 75 degrees, for use as a disconnecting switch that can be operated by a standard hookstick. Magnetizing currents of a 750 Kv-a., 3-phase transformed are easily interrupted, using this fuse as a disconnect.

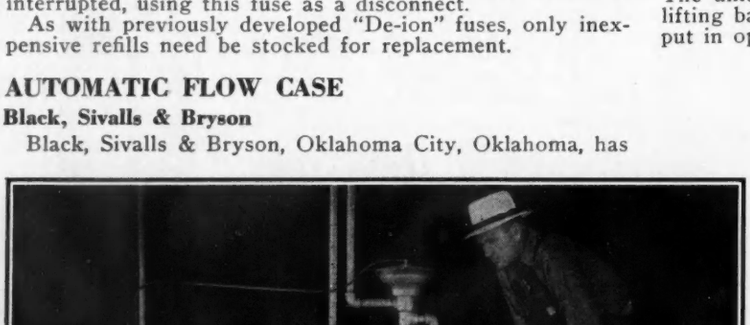
As with previously developed "De-ion" fuses, only inexpensive refills need be stocked for replacement.

AUTOMATIC FLOW CASE

Black, Sivalls & Bryson

Black, Sivalls & Bryson, Oklahoma City, Oklahoma, has announced a new automatic flow case, a dependable apparatus for boosting oil into stock tanks from separators working at low pressure. It is for use as an automatic drip in wet gas lines operating under vacuum.

The automatic flow case is equipped with a three-way gas valve control and is strictly automatic, requiring no attention. It is operable on a small volume of gas from outside source, and the separator cannot flood. The capacity of the device is 1000 barrels of oil per 24 hours. The unit weighs 650 pounds.



B. S. & B. Automatic Flow Case.

FLEXICORD BELT

Cincinnati Rubber Manufacturing Company

Cincinati Rubber Manufacturing Company, Cincinnati, Ohio, recently developed a new cord belt, known as Flexicord, for heavy-duty work in oil fields.

Flexicord oil field belt has a double reinforced construction and its body is built of automobile tire cords. These

Flexicord Belt

tire cords are of a special weave laid side by side. Each cord is embedded separately in strong elastic rubber which provides an extremely strong bond. The plies of rubber and cord are welded into one complete unit. The straight laid cords eliminate stretching and give the belt remarkable flexibility, the makers claim. The cord body is enclosed in a double envelope of heavy weave fabric that takes the wear while the cord center carries the load.

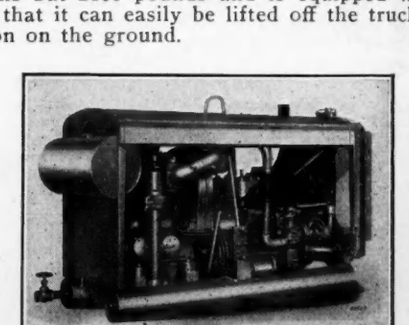
Flexicord is built either endless or open end. When made open end the bar-type clamp can be used satisfactorily. In building this belt endless it is made in hoop fashion, giving equal strength in all parts of the belt.

UTILITY COMPRESSOR UNIT

Ingersoll-Rand Company

Ingersoll-Rand Company, Phillipsburg, New Jersey, announces a compact, self-contained utility compressor unit for mounting on a motor truck, which operates independently of the truck motor and transmission.

The unit is usually placed crosswise of the truck body so that it takes up but the minimum amount of loading space. Its dimensions are 6 feet 7 inches by 2 feet 3½ inches. The unit weighs but 2100 pounds and is equipped with a lifting bale so that it can easily be lifted off the truck and put in operation on the ground.



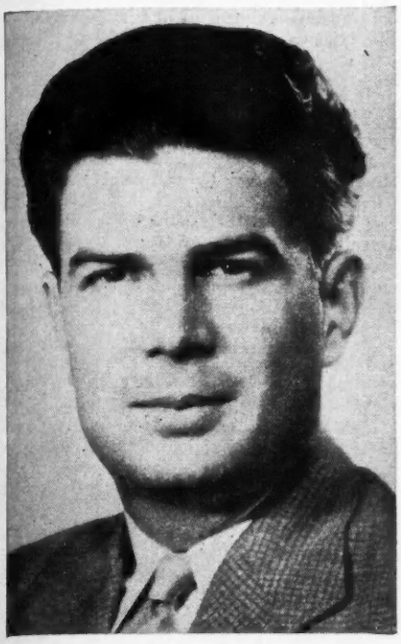
Ingersoll-Rand Utility Compressor

This Week with the Industry's EQUIPMENT SUPPLIERS

W. E. Ragsdale Dallas Manager for Cutler-Hammer

Cutler-Hammer, Inc., Milwaukee, Wisconsin, announces appointment of W. E. Ragsdale as manager of its recently opened office in Dallas, Texas.

Ragsdale became associated with National Broadcasting Company after receiving a degree in electrical engineering from the University of Oklahoma, and has had wide experience in the electrical field and gained thorough knowledge of the Cutler-Hammer line of electric control equipment, safety switches and electrical apparatus. The new office is located at 624 Santa Fe Building, Dallas.



W. E. RAGSDALE
At Dallas for Cutler-Hammer.

Eric Schroeder Making Extended Western Tour

Eric G. Schroeder of Kibele Manufacturing Company, Dallas, Texas, accomanied by Mrs. Schroeder, has left for an extended automobile trip through Wyoming and California oil fields.

Westinghouse Names Reizenstein Contract Manager

Westinghouse International Company, Pittsburgh, recently announced appointment of H. S. Reizenstein as contract manager.

A graduate in electrical engineering and business administration at the University of Pittsburgh, Reizenstein became connected with Westinghouse in 1910. After completing the student course, he was located at East Pittsburgh as a foreign correspondent. In 1913 he became manager of the order department, and in 1915, manager of the price department of Westinghouse Electric International Company. He served as manager of the advertising department from 1918 until his recent appointment.

As contract manager, Reizenstein will have charge of the following important related divisions of the Westinghouse International Company: order division, stock control division, purchasing division, and clerical division. His headquarters are at 150 Broadway, New York.

Republic Supply Appointed Representative for Caterpillar

Republic Supply Company has been made sales representative of the Caterpillar-Diesel line of tractors for oil field use in New Mexico, Oklahoma, Kansas, Texas, Louisiana and Arkansas, according to an announcement of Caterpillar Tractor Company, Peoria, Illinois.

Westinghouse Names Blocksidge Assistant to Vice President

The Westinghouse Electric International Company, Pittsburgh, recently announced the appointment of G. Blocksidge as assistant to vice president.

Blocksidge became associated with Westinghouse in 1906 following his graduation from the Virginia Polytechnic Institute in electrical engineering. After completing the Westinghouse student course, he was engaged in railway and lighting sales at the East Pittsburgh works. In 1912 he was transferred to the Baltimore office, and in 1916 to the Philadelphia office. In 1921 Blocksidge became associated with the export division of the company and was stationed in London as chief engineer until 1924. In that year he was recalled to New York, where he devoted his efforts to transportation and prime mover sales, and in 1932 was made manager of the central station and transportation division, which position he held until his recent promotion.

Blocksidge will handle all contracts with the Electrical Apparatus Export Association and similar associations, together with other special assignments, and will make his headquarters at 150 Broadway, New York.

Cavins Company Supplies Bailer for Washington Well

The Cavins Company, Long Beach, California, recently announced the shipment of a Cavins hydraulic suction bailer to the People's Oil and Gas Development Company, Euphrate, Washington. The bailer is to be used in drilling an oil well at that point, as the latter company believes that it will facilitate drilling operations in the formations encountered. Paul Cavins, president of the Cavins Company, will personally supervise the work.

L. W. Browne Vice President of Keckley Company

O. C. Keckley Company, 565 Washington Boulevard, Chicago, recently appointed L. W. Browne, formerly president of Fisher Governor Company, as vice president in charge of sales and distribution of its steam and liquid control equipment.

Cecil E. White Joins Waukesha Motor Company

The Waukesha Motor Company, Waukesha, Wisconsin, has obtained the service of Cecil E. White for the sales staff of its gas power division. He will assist in the promotion of the new automatic power units and will devote his time to sales promotion as well as sales work in the field.

A graduate of the University of Wisconsin, his schooling and experience combine well to give him the proper background for this new activity. His technical training consists of work as an instructor in agricultural engineering at the university and in automotive engineering at the American School of Correspondence in Chicago. During this time he also assisted in the revision of texts on automotive engineering, as well as preparing a treatise on practical radio. Subsequent technical experience was gained as a service engineer for Allis-Chalmers Manufacturing Company.

C. E. WHITE
New member of Waukesha Motor Company sales organization.

Westinghouse Promotes R. R. Davis

The Westinghouse Electric & Manufacturing Company, Pittsburgh, announces promotion of R. R. Davis from apparatus advertising manager to assistant to the general advertising manager of the company.

Davis has been associated with Westinghouse advertising activities since 1910. For the present, his offices will continue to be in the East Pittsburgh works, though he will be located in the new Pittsburgh headquarters of the company as soon as advertising offices can be established there.

Butler Builds Model Tank for College

Butler Manufacturing Company, Kansas City, Missouri, will supply, through its distributor, Drane Tank Company, For Worth, a complete 1/6 scale model of its crude oil storage bolted tank to the

Butler executives examining the model. Left to right: R. V. Sutherland, chief engineer; Louis Brown, sales manager, Kansas City oil equipment division; C. C. Crouch, vice president in charge of sales promotion; E. E. Norquist, president, and Glen C. Speakman, general sales manager.

School of Petroleum Engineering of the Agricultural and Mechanical College of Texas, Bryan, Texas.

This tank, together with models of other oil field equipment, will be used for student's study and experimentation.

Ruberoid Company Acquires New Asphalt Plant

Ruberoid Company, 500 Fifth Avenue, New York, recently announced acquisition of physical assets of the Gold Seal Asphalt Roofing Company, operating at Minneapolis, Minnesota, a modern plant for the production of asphalt roofing and shingles.

The purpose in acquiring the Minneapolis plant was to further round out the Ruberoid manufacturing and distributing system by effecting various manufacturing economies and by providing more rapid service at advantageous freight rates to distributors in the north central and northwestern state. The Minneapolis plant will be provided with facilities for warehousing and distributing the complete line of Ruberoid building products.

Lane-Wells Company Holds Annual Picnic

The Lane-Wells Company, Los Angeles, held its first annual picnic in the American Legion Stadium in Montebello August 30, which was attended by over 500 employes and guests.

The day's activities included various games and contests, with prizes donated by the company to all winners. Refreshments at noon and again in the evening, followed by dancing, brought this successful gathering to a close.

Crane Company Displays Robot-Like Football Figures

Crane Company, 836 South Michigan Avenue, Chicago, has on display at cities where outstanding football games are being played, a group of robot-like figures in a traditional gridiron setting. The figures are assembled from equipment such as elbows, nipples, street elbows, tees and various other parts.

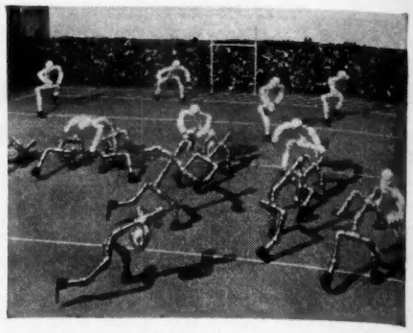
New Firm Serves Oil Industry

Pyramid Manufacturing Company, 1112 Wood, Houston, has recently been formed for the purpose of supplying the industry with various products, such as: portable water softeners for drilling purposes; portable condenser heater units for drilling purposes; lime and soda systems, and zeolite water softeners of every description for use in refining departments, pipe lines, and drilling divisions. The company is also engaged in the manufacture of dry chemical material for water treating on engine jackets, condensers, spray towers, as well as high-temperature paints.

W. D. Moore (left) and A. R. Moberg, president and vice president of Pyramid Manufacturing Company.

The men connected with this organization have gathered extensive experience in this type of business and they are in a position to offer prompt and efficient service to the trade.

The officers are: W. D. Moore, president and treasurer, A. R. Moberg, vice president, and Glen Green, secretary.



These hard driving gridiron huskies were constructed in their entirety from brass fittings and other accessories by the Crane Company, Chicago, Illinois.

Oil Field Machinery

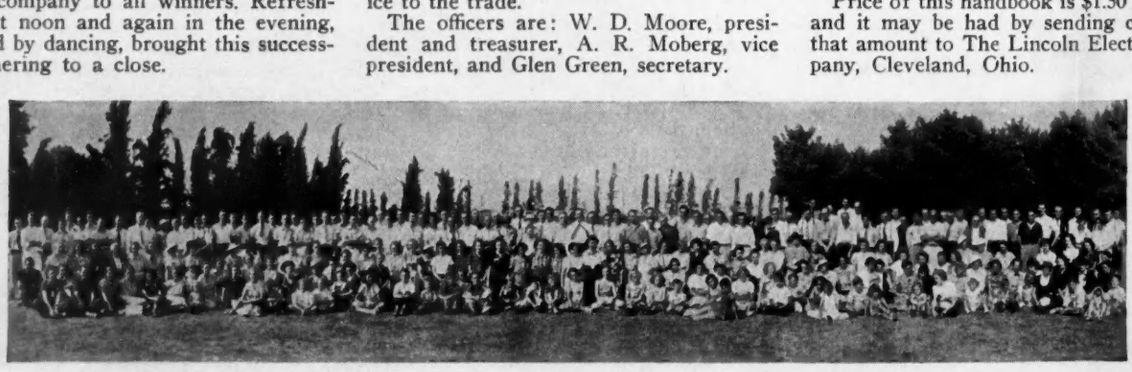
The August, 1937, issue of "Lubrication," published by The Texas Company, 135 East 42nd Street, New York City, is devoted entirely to oil field machinery. Drawings of cable tool and rotary type drilling outfits are shown, while photographs and details of various equipment items enhance the appeal of the story. The running article is a full, non-technical treatise on equipment and its care and operation. The necessity for proper lubrication is stressed.

Arc Welding Handbook

The Lincoln Electric Company, Cleveland, Ohio, has published the Fourth edition, Procedure Handbook of Arc Welding Design and Practice. It includes the latest weld symbols adopted by the American Welding Society in May and a new introduction to part six, "Designing for Arc Welded Steel Construction of Machinery." The addition of the new material, included at this time rather than being deferred until publication of the fifth edition, is in line with a policy of supplying the arc welding industry the latest and most important information through the medium of the Handbook. The book is the recognized authority on arc welding and its widespread acceptance is indicated by the fact that its sale has exceeded 40,000 copies. This is an unusually high figure for a technical handbook.

The new weld symbols occupy 16 pages in the reprinted Handbook. The symbols are reproduced in toto as adopted by the Welding Society. The symbols are ideographic and their use, as applied to welded design drawings, is fully explained. In addition to the symbols themselves, an example is given of how the symbols are actually applied in producing a welded design.

Price of this handbook is $1.50 per copy, and it may be had by sending check for that amount to The Lincoln Electric Company, Cleveland, Ohio.



First annual employees picnic of The Lane-Wells Company, Los Angeles, California.

Squeaks from the Bull Wheel

Beat Jonah

"Did you know that Jonah was three days in the stomach of a whale?"

"That's nothing. My uncle was longer than that in the stomach of a crocodile."

"How long?"

"He's there yet."

Season Is On

"Only ten yards of these goods to a customer."

"This lady pushed ahead of me."

"We'll penalize her five yards."

Genuine

"Is that a real bloodhound?"

"A real bloodhound? I'll say! Here, Rover, bleed for the lady."

In a Hurry

You say you want this automobile accident damage suit pressed through with the utmost speed?

Exactly. I have a child 6 weeks old, and I want the money to pay his college education.

Serial

"Oatmeal, oatmeal—every day oatmeal!" lamented Willie.

"Yes," said Fred, "no wonder they call it a serial."

Right

What insect requires the least nourishment?

The moth. He eats holes.

Domestic Court

The best thing you can do is to go home and make it up with your wife.

And what's the second best thing?

Appropriate

"When Mandy went and got married, us girls give her a shower."

"Dat sho' was nice. Aah'll bet her husban' was glad to get 'er all nice and clean."

Relieved

O, Bill, the baby can walk.

That's fine. Now he can walk up and down at night by himself.

His Mistake

The owner of a cheap watch took it to a jeweler to see what could be done for it.

"The mistake I made, of course," he admitted, "was in dropping it."

"Well, I don't suppose you could help that," the jeweller remarked. "The mistake you made was in picking it up again."

Glad to Know You

The young lady walked boldly up to a woman whom she took to be the matron of the hospital.

"May I see Lieutenant Barker, please?" she asked.

"May I ask who you are?"

"Certainly, I'm his sister."

"Well, well. I'm glad to meet you. I'm his mother."

Courteous Refusal

It looks like a storm; you had better stay for dinner.

Oh, thanks, but I don't think it's bad enough for that.

Diplomat

Am I the only girl you were ever interested in?

No, but you are the most charming among all the girls I have ever met in a life devoted mainly to meeting charming girls.

Poor Gramps

Grandson: "Why are you baldheaded, grandpa?"

Grandpa: "For the same reason grass never grows in the street."

Grandson: "Oh! Can't push through Concrete, eh?"

Or a Bonus

"I have courted your daughter for 15 years."

"Well, what do you want?"

"To marry her."

"Well, I'll be damned. I thought you wanted a pension or something."

Big Bites

An old Scots woman was wandering round the local museum with her grandson when they came to the usual statue of Venus de Milo, with half an arm missing on one side and the whole arm cut away on the other. "There ye are, my lad," pronounced the old lady, wagging her finger toward the youngster. "That's what comes o' bitin' your finger nails!"

Science Explains

"Performing a difficult task before breakfast will spoil your entire day," a physician declares.

So that's what has been the matter with our days!—we've been getting up before breakfast.

Safety Precaution

"How did you break your leg?"

"I threw a cigarette in a manhole and stepped on it."

School's Begun

He: You've a faculty for making love.

She: Oh, no—just a student body.

Method

It was in Ireland. A gang of navvies were doing a spot of excavating in a hole.

Picks and shovels were not working at the speed the foreman desired. Putting his hand to his mouth "All of yez out!" he yelled.

The navvies dropped their implements of toil and scrambled out of the hole.

"All of yez in!" yelled the foreman. The navvies all jumped back into the hole. As soon as they were in, the foreman again yelled, "All of yez out!"

Out they scrambled. This performance was repeated again and again until Pat (one of the navvies) asked the foreman what was going on.

"Well," replied the foreman. "Ye take more dirt out on yer boots than ye do on yer shovels. All of yez in!"

Definitions

Another selection of recent "howlers":

"Cupidity is another name for infatuation."

"A la carte is French for per delivery van."

"A goblet is the homely name for a baby turkey."

"A counter-attraction is a pretty shop girl."

Gotkool
WATER CANS & COOLERS
GOTT Water Coolers are the convenient way to keep drinking water handy to the worker, protect it from impurities. Their exclusive construction keeps water cool for long periods. Snug fitting large removable top, handy non-leaking push button faucet. GOTT Water Cans for handy field use. Your Supply Store has them, get one today! . . . .
GOTT WATER COOLER
Made in 3, 5, 8, 10, and 20 gallon sizes.
GOTT WATER CAN
Made in 1½, 3, 5, and 10 gallon sizes.
H. P. GOTT MFG. CO.
WINFIELD, KANSAS
KEEP PURE DRINKING WATER ALWAYS HANDY

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